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MAN AN ORGANIC COMMUNITY.

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BEING AN EXPOSITION OF THE LAW THAT THE HUMAN PERSONALITY IN ALL ITS PHASES IN EVOLUTION, BOTH CO-ORDINATE AND DISCORDINATE, IS THE MULTIPLE OF MANY SUB-PERSONALITIES.

BY

JOHN H. KING,

AUTHOR OF "THE SUPERNATURAL, ITS ORIGIN, NATURE, AND EVOLUTION."

IN TWO VOLUMES.

VOL. II.

WILLIAMS AND NORGATE,
14, HENRIETTA STREET, COVENT GARDEN, LONDON; AND
20, SOUTH FREDERICK STREET, EDINBURGH.

NEW YORK: G. P. PUTNAM'S SONS.

1893.

LONDON:
G. NORMAN AND SON, PRINTERS, HART STREET,
COVENT GARDEN.

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CHAPTER V.

Discordinations by Exaltation.

The co-ordination of the mental and bodily powers are not only overthrown by depressing influences that mar their united harmony, and by general exciting influences that blend their manifestations often in wild confusion, there are also a large class of cases in which the co-ordinate affinity is lost by the exceptionally exalted expression of one or more mental faculties which by their predominant influence command more or less completely the energy of both body and mind. There is no impulse of the mind but may more or less exercise a special influence on the organism, bending the will of the individual to its exclusive pursuit and thereby commanding for that purpose every bodily power. So universal is this special tendency that we meet with it universally in every-day life. It is characterized by engendering special habits in the individual, by inducing him to cultivate hobbies or take to special pursuits. With some, every moment of their time, every thought of their minds, that can be withdrawn from the necessary purposes of life, are devoted to the one choice—mental activity. In most instances under ordinary healthy stimuli this proceeds no further. The individual follows his necessary occupation, takes his share in general social

pursuits, fulfils his place in the family relations, and only devotes his surplus energy and hours to the favourite gratification.

From this genial fulness of the social life, others gravitate to every possible shade of intense oneness of the mental manifestation. Their other mental impulses are slighted or hastily fulfilled, and the full force of the individual mind is devoted to the special impulse. Even this concentration of the energy within a given range does not preclude the healthy exposition of the other faculties, though they only retain a subdued place in the psychical life of the individual; but when the special *penchant* obtrudes on every thought, commands the powers of the mind in its waking and dreaming states, then the co-ordinate mental harmony is overturned, some faculties become atrophied or pass into reversionary phases, and the unity and stability of the being is deranged.

There is not a mental or even bodily faculty but may thus be made to predominate. No man can exclusively apply his bodily forces to physical culture but the integrity of the mental powers is thwarted, and much that he gains in muscle is at the expense of the higher nervous tensions. Still more is this degradation marked when the devotion of the soul is expended on the gratification of the stomach. With some, this leading impulse takes the form of personal estimation, pride of position, of influence, of wealth, of person—mere futile vanity. When it finds vent in the higher moral sympathies—in art, in poetry, in vaulting ambition that knows no other let—we can but look on and wonder.

But whatever mental phase may predominate, it can only be at the expense of the other mind-powers; for each individual is limited in the capacity of doing to the fundamental energy of his being, and to devote his soul to one pursuit is to withhold the necessary energy of exercise from his other powers; they cramp, abort or degenerate. We

may commonly note this result as accruing in all specially noted for the singleness of their pursuit in life.

These phenomena, which commonly mark healthy normal life, become still more apparent when we treat on the morbid manifestation of special faculties. It by no means follows that the morbid state is due to the stress of the individual mind being expended in the one direction. It may be so, and the morbid state only be an amplification of the phenomena in the individual's normal state. But there is a remarkable peculiarity in morbid manifestations that in their expression pass over from the inciting cause to control some other phase of the mental powers. This metamorphic power is very general, and when a change takes place due to degeneracy, or by inheritance, or by any other circumstance that remodels the mental and bodily powers, the discordination may be transferred to any other mental or bodily power. This principle of transference we shall have more fully to consider as it marks an important speciality in the nature of mind.

A very general form of transference will be familiar to all in the common incidents that result from the loss of any special sense, in many respects the remaining senses take up some of its duties and become exalted. Thus Dr. Davey, in the twenty-first report of the Directors of the Hartford Asylum, quotes the case of a girl, Julia Brace, who had lost both sight and hearing, and whose sense of smell became wonderfully acute. She had been frequently known to select her own clothes from a mass of dresses belonging to one hundred and forty persons. Her manner is to examine each article by feeling, but to decide upon it by the sense of smell, and in regard to her own things she is never mistaken. She has been frequently known to discriminate merely by smelling them the recently-washed stockings of the boys from those of the girls in the Asylum. (*Journal of Science*, III. p. 541.) The transference of one form of degradation to another may take place

in the individual organism, or it may take place in hereditary transmission. It may be the change of one mental aberration to another mental deficiency, or it may result in the special mental disorganization ceasing and being transferred to a physical derangement. Dr. Savage records the case of a man who after having all sorts of hallucinations—attempting to commit suicide, refusing food, believing he was to be vivisected, and that detectives were ever watching for him—one morning informed him that he had got the gout again and was all right, and that he hoped the gout would continue, as when that came on his insanity passed away. (*On Insanity*, p. 434.) A similar case is recorded in *Wigan's Duality of the Mind*. A gentleman distracted by two trains of thought that evolved into the character of positive insanity. It was proposed to put him into a madhouse; a delay was allowed; in the night his great toe swelled to a great size with the gout, and all his delusions vanished, and his reasoning powers became extraordinarily acute (p. 78).

Speaking of hereditary derangements, Dr. Elam says:—Innumerable are the forms in which evil tendency acts upon the offspring. They need not inherit the identical habits or dispositions of the parents, but they inherit a faulty, defective, or vicious organization which develops itself in the most varied forms of disease or character. It may in one of the children only develop itself in simple neuropathy, a hysterical tendency, an oddity, or peculiarity of manner or disposition; but all these, when due to such an origin, are capable of giving rise to affections of the mind of the gravest possible significance in the next generation. (*A Physician's Problems*, p. 85.)

Under insane derangements every possible change or transfer of character may ensue: the moral become immoral; the chaste, erotic; the high-minded, cunning and debased; the cheerful, morose; or the morose, cheerful. Dr. Clauston says:—"I knew a naturally reserved, proud,

unsocial, rather cantankerous, selfish, stupid, miserly man become for a time genial, bright, good-mannered, and generous, during an attack of insanity. The changes in the tastes, instincts, and even in the organic appetites are often marked and most peculiar. Most patients do not like the same food as when in health. The delicate likings are not only lost, but new repugnances develop themselves, and former feelings of friendship are commonly altered or lost. The higher intellectual tastes also change. I knew a man who could not appreciate, and, as a matter of fact, neglected his favourite authors, taking to their exact opposites." (*Clinical Lectures*, p. 160.)

We have quoted the above illustrations of the transference of mental and physical qualities, as they not only demonstrate the oneness of the individuality, but that the common energy may be concentrated on any of the co-ordinating powers, of which concentration exaltation is the special characteristic. And this exaltation may be manifested in any physical or mental force, and in either the normal or abnormal status of the individual.

Exaltation, that is, the general energy of the being, may be concentrated on any mental power or impulse, any moral sentiment, any personal feeling, any physical aptitude, all the free volitional power of the individual may be engrossed by the predominating influence, it may induce the most exalted conceptions, it may be debased by the lowest, the most depraved appetites.

It is notable that the continued stability of the co-ordinated individuality is most secure when the distribution of the common energy has an all-round application, and that when it is specially limited to one faculty or power the common integrity of the whole is imperilled. It is through such want of equipoise that the commanding and disintegrating elements in the being are always liable to disturbance. It is an old, trite saying, how near genius is allied to madness, so in like manner in the most debased

forms of concentrated energy, as in the criminal classes, intensity of immoral concentration is more especially liable to be transferred into physical disease. A sane mind in a sane body implies mental and physical co-ordination, and where they are not present the form of disintegration may be mental, moral, or physical.

Exaltation has ever reached the highest status in its development under normal influences, this results from its being more continuous, more under control, and hence more stable. The intellectual faculties devoted to music, to art, to poetry, may absorb the vitality of the individual, but in their limited area they endure for years, and the common, continuous purpose results in the greatest of human productions. But in abnormal exalted manifestations the effects are more transient, because the mental force may be transferred from one impulse to another, from the intellectual to the physical, the want of equipoise prevents its continuity, the hallucinations may change, and the morbid mind be influenced by other impulses.

Like every morbid mental status, so every exalted mental characteristic results from prolonged concentration on one idea or one series of ideas, and the amount of exaltation is due to the primary innate energy in the individual and the intensity of its self-concentration. With some it never passes beyond a portion of their waking hours. The brain, the sense, tires, and they seek repose or change. With others it forms the sum of their day dreams, they give the full complement of their waking energies to the purpose of their souls, but there are some whose self-selected aspiration knows no repose, it not only commands their waking thoughts, it ever obtrudes on their sleeping visions. It may be in the form of music, it may be in art, the dream may be visions of pride and self-gratulation of wealth, grandeur, and the might of command, or even the lowest sentiments, but whatever their nature they are ever present, waking or sleeping, to the sensorium.

Of exaltation in the normal state we need only make a few observations, the biographies of all men great in the normal pursuit of special objects are so familiar to all as to be matters of universal comment. Ever with an intense purpose, they follow their particular study, devoting the energies of their bodies, the vigour of their minds, to the soul-pervading idea, and, as a necessary result, even those of lower co-ordinations make a mark in society, while those endowed with exalted powers achieve the foremost mental and social places. It is to such men we owe all that distinguishes the man from the brute, for without the impetus of mental concentration, the status of man ever had been that of the lowest savage. But whatever the faculty employed, its persistent and continuous presence became a power. Visually, as with Martin, Blake, Horace Vernet, and Gustave Doré, the forms and scenes of their subjects became present realities in their minds; Charles Dickens not only saw but heard his characters expound their characteristic observations, and Zerah Colburn anticipated the visual figures of Galton. Have not masters in chess carried on several games consecutively, and are not the feats of jugglers and trapezists proof of the mastery that the mind obtains over the bodily faculties.

As illustrative of special exalted powers, we might quote Theodore Hook's power of humour. "He displayed his extraordinary gift of extemporaneous singing at a dinner given by the Drury Lane Company to Sheridan. The company were numerous and generally strangers to Mr. Hook, but, without a moment's premeditation, he composed a verse upon every person in the room, full of the most pointed wit and the truest rhymes, unhesitatingly gathering into his subject as he rapidly proceeded, in addition to what had passed during the dinner, every trivial incident of the moment. Every action was turned to account, every circumstance, the look, the gesture, or any other incidental effects served as occasion for more wit, and even

the singer's ignorance of the names and condition of many of the party seemed to give greater facility to his brilliant hits than even acquaintance with them might have furnished. (*Life of Matthews*, II. p. 59.)

Of another and higher class of creative capabilities we may quote Mozart's description of his own state while engaged in the composition of his celebrated musical pieces. "When I am in good spirits and in the right trim, in a carriage or walking, perhaps during the night when unable to sleep, thoughts flow in upon me, and, as it were, in a stream. Whence they come, and how, I know not, and I have no control over them. My mental work gradually becomes more and more extended, and I spread it out farther and more clearly, until the piece really comes into my head almost ready, even should it be of considerable length, so that I can survey it in spirit with a glance, as if I saw before me a beautiful picture, and I have it in imagination not in detached portions, but, as it were, altogether as a whole."

To the man with exalted faculties a simple suggestion suffices to excite original power. Thus Archimedes evolved the great hydraulic law from the overflowing of a bath. Newton conceived the law of gravitation from the incident of a falling apple. Ferguson matured the laws of mechanical force from observing his father raise the sunken roof of his cottage by means of a long lever. Chantrey was excited to the study of art by rude carvings on an old picture frame, and Wilkie evolved the perception of character from the serio-comic face of a school boy standing on the stool of shame; while West was attracted to representative art by the placid face of a sleeping infant. So in like manner music has stimulated the minds of many to the laws of harmony and sweet sounds. Beethoven is said to have become most imaginative by roving amid a varying landscape of trees, water, and hills, with the clouds rolling about, and the wind roaring in the gusts of the storm.

Genius is ever subject to exalted illusions, and the number of exalted minds that have crossed the borderland of exuberant fancy to wander in the mysteries of hallucinations demonstrates how nearly the equipoise of a great mind trembles on the balance, and how it may unknowingly and unsuspecting wander into a visionary state. Thus Pope saw an arm come out of the wall, Malebranche distinctly heard the voice of God within him. Dr. Johnson heard his mother's voice, though far away. Goethe saw the counterpart of himself coming towards him. Cromwell, in his sleep, saw the figure of a gigantic woman, who informed him he would become the greatest man in England. So Benvenuto Cellini saw visions; Milton dreamt he saw his dead wife; Blake, the painter, said he conversed with Michael Angelo, chatted with Moses, and dined with Semiramis. G. H. Lewes said of Charles Dickens that he distinctly heard the words his characters spake; he used also to see the image of his sister Mary every day, and dreamt that he saw her every night for a year. No wonder that under these overpowering influences the subjective vision rises to an objective reality, and the deluded mind passes into an ideal world of its own.

Morbid exaltations may not only have their origin in the unbalanced presentation of an overpowering idea, they may arise from special stimulation of any kind. They often come in dreams when the excited vision unpoises the delicate co-ordination of the morbid faculties. Forbes Winslow says a patient had for a fortnight preceding an attack of apoplexy, a consecutive series of horrible dreams, in one of which he fancied he was being scalped by Indians. Others have dreamt of falling down precipices, of being torn to pieces by wild beasts. A gentleman dreamt that his house was in flames, and that he was gradually being consumed to a cinder. This dream occurred a few days before an attack of inflammation of the brain. A person prior to an attack of epilepsy dreamt that he was

severely lacerated by a tiger. For some weeks previous to attacks of acute cerebral disease patients have been the subject of troubled and distressing hallucinations. Insanity is often preceded by disturbed sleep and frightful nocturnal visions. Dr. Beddoes attended an epileptic patient, whose first fit succeeded a dream in which there had occurred to the mind the idea of a person being crushed by an avalanche, which he had seen the day before. (*Obscure Diseases*, p. 502.)

The exaltations of the insane, whatever may have been their origin, may be special to any physical character, any mental power, any sentiment or feeling. They may represent any brute force, any savage propensity. Not an impulse or feeling, not a form of psychical manifestation, but may pass from its ordinary social standard to a state of the utmost exaltation. Such influences and feelings as are apt to exert a commanding influence on man in society are most likely to become morbid and express the most exalted ideas. Occasionally they affect the physical organization, and wondrous are the powers in eating, in lifting, the muscular strength is vast, the stature is lofty, it has special powers and natures, the limbs, the form, the features, are not as other men. A man may conceive in the insane state that his body has taken any special quality, has been converted into any animal form, he may be made of wood, of glass, have become a leaf or fruit. There is no idea so absurd but that it may take possession of his mind. So in like manner his sensations of externals may take any form, he may delude himself into the belief that any object is other than it appears to the normal preceptions, it may be changed in nature, enlarged, elevated, altered in all its characteristics, and represent anything but the reality. In the state of exaltation not only may the mind conceive that an object has been transformed, but the feelings and sentiments and tastes will accept the hallucination, and express the same sense of gratification as if the imagined object

was actually present. A case exemplifying this form of hallucination is given by Boismont. "In the madhouse of Dr. Pressat was an aged patient who had not spoken for years, his only occupation smelling and licking the walls and threshold of his room until he left deep and numerous impressions on the plaster. To all questions he made no reply, until one day the doctor said, Who has made these dirty hollows on the wall? The patient then broke the silence he had long maintained, and said, 'You call those dirty spots; see, they are Japan oranges, what delicious fruit, what colour, what fragrance, what exquisite flavour,' and he commenced inhaling and licking." (*Boismont, Hallucinations,* p. 119.) The same writer further says:— "Some believe they are partaking of excellent viands, and drinking delicious wines, although they really have nothing. Others complain in like cases of detestable food, tasting of verdigris. Some eat earth, gravel, and dirt, maintaining they have an excellent flavour." (*Ibid.* p. 427.)

On this simulation of sensations D. H. Tuke observes:— "Sensation and motion are not merely more readily reproduced by the original impressions being repeated, but may be reproduced without our having the slightest resource to them, so that we may breathe an atmosphere in which the body feels, the eye sees, the ear hears, and the nose smells, and the palate tastes, as accurately as if the material world excited these sensations, and may perform muscular actions without, and even against, the will, and with or without consciousness, solely in respondence to ideas, whether recalled by the memory or created by the imagination. The common centre acted upon by objective impressions from without, and by subjective impressions from within, being the sensorium, and the resulting sensations and motions being, in many instances, as powerful from the latter as from the former, and in some cases more so." (*Illustra. Influence of Mind,* I. p. 80.)

The exaltation of the powers, mental and bodily, of the

insane, are not merely subjective, self-deluding hallucinations, they become often wonderful realities, and madmen exhibit both muscular energy and mental powers of the more exalted character. Hammond speaks of the wonderful muscular activity of the insane, and describes them as being day by day and night by night in a continual state of excitement,—walking, running, jumping, rolling over the floor, dancing, twisting, and turning in every possible way. The continuous state of exaltation varied by talking, shouting, yelling, laughing, singing, praying, cursing, and howling, with little disturbance of the pulse or elevation of the temperature. (*On Insanity*, p. 546.)

So with the special senses. In considering their manifestation in the insane, we have not only to consider their exaltation in hallucinations, but the actual exalted tensions they exhibit. Thus, as Forbes Winslow writes of an eminent artist who died of softening of the brain:—"The cerebral symptoms exhibited themselves several years previously to the attack in the form of flashes of light before the eyes and diminished distinctness of vision. The morbid phenomena consisted in a series of the most dazzling images, perpetually playing on the optical apparatus by day and by night. Sometimes they would assume the forms of angels with flaming swords, every motion of which seemed like an electric flash. The forms and shades of the spectral images were ever changing." (*Obscure Dis.* p. 234.)

Of the exaltation of the sense of sight in somnambulists, Tuke says:—"The visual sense is often very acute, and this, along with the dilated pupil, permits the sleep-walker to see objects with an amount of light which is practically darkness under normal conditions." (*Sleep-Walking*, p. 21.) A Madam X—— wrote letters most accurately in a room so dark that her physician could not distinguish the objects in it, yet that she depended on her sight was shown by the fact that an opaque object inter-

posed between her eyes and the paper stopped her writing. (*Ibid.* p. 23.) Dr. Bratchet tells of a patient who found that his vision had acquired astonishing capacity since the preceding day. He could distinguish the most minute objects at an enormous distance. (*Journal of Mental Sci.* XXIV. p. 431.)

Of exaltation of the sense of hearing in various morbid states, Forbes Winslow gives several instances. In one, a gentleman, ill in bed, heard the least sound at the bottom of the house, he could tell the hour by a watch placed on a table at such a distance from his bed as to have rendered it impossible for him to have distinguished the hands when he was in health. In another case, for a few hours prior to an apoplectic seizure, a person remarked to his son that when in a distant part of the house he could, and in fact did, hear distinctly a conversation that was taking place in the dining-room at a time when no one else could distinguish the sound of human voices. Morbid exaltation of the sense of hearing is not an infrequent symptom of approaching mental derangement. In the premonitory stage the patient often complains of great sensorial activity. He sees what no other person is able to recognize, smells offensive and disagreeable odours not perceivable by those near him, and hears noises and voices appreciable only by himself. (*Obs. Dis.* p. 486.)

Any special mental faculty may manifest exalted powers. Secresy, cunning, caution, discriminating judgment, attention, and memory, are all often exhibited by individuals morbidly insane. In estimating the mental actions of the deranged, we have to remember that when the mental state is normal the nature of the co-ordinating principles are simply affected by the evolutionary state of the individual, the standards of the moral activities ever being in accordance therewith, but when the co-ordination is disintegrated, the moral and mental elements are never persistent in the individual, they combine and re-combine in ever-varying

associations, and the influences that pervade the mind in one hour may be changed by other impulses in the next. Hence each morbid individual formulates his own present social system, each lives in a world of his own, more or less varied according to the nature of his mental tendencies. There are some whose morbid exaltations may take a single impulse; there are others who change continually, and whose hallucinations are as varied and as exalted as those of the opium-eater.

Of the general exaltation of the mental powers, Dr. Willis gives an instance. A patient said to him, I always expected with impatience the accession of paroxysms of insanity, as everything then appeared easy to me. My memory all of a sudden acquired a singular degree of perfection. Long passages of Latin authors occurred to my mind. In general I had great difficulty in finding rhythmical terminations, but then I could write in verse with as much facility as in prose. I was cunning, malicious, and fertile in all kinds of expedients. (*Mental Derang.*) Forbes Winslow says:—"In the stage of morbid exaltation the patient frequently exhibits a talent for poetry, mechanics, oratory, and elocution quite unusual and inconsistent with his education, and opposed to his normal habits of thought. His witty sallies, bursts of fervid and impassioned eloquence, readiness at repartee, power of extemporaneous versification, mechanical skill and ingenuity, amaze those who were acquainted with his ordinary mental capacity and educational attainments. There is an unusual display of vigour of mind, an ability to converse fluently on subjects not previously familiar to the mind, and an aptitude to discuss matters wholly unconnected with his previous situation in life. A quickness of perception, a facility and propriety of utterance quite unusual, become, in some cases as the disease progresses, daily more manifest." (*Obs. Dis.* p. 203.)

Dr. Rush says the records of wit and cunning of madmen

are numerous in every country. Talents for eloquence, poetry, music, painting and uncommon ingenuity in several of the mechanical arts are often evolved in the state of madness. A gentleman, whom I attended, often delighted as well as astonished the patients and officers of our hospital by his displays of oratory in preaching every Sunday. A female patient sang hymns and songs of her own composition during the latter stage of her illness, with a tone and voice so soft and pleasant that I hung upon it with delight every time I visited her. She had never discovered a talent for poetry or music in any previous part of her life. Two instances of a talent for drawing evolved by madness have occurred within my knowledge. And where is the hospital for mad people in which elegant and completely rigged ships and curious pieces of machinery have not been exhibited by persons who never discovered the least turn for a mechanical art previously to their derangement? (*Dr. Rush, Disea. of the Mind.*)

As Winslow writes :—"Tasso composed his most eloquent and impassioned verses during paroxysms of insanity. Lucretius wrote his immortal poem when suffering from an attack of mental aberration. Alexander Cruden compiled his Concordance whilst insane. Some of the ablest articles in Aiken's Biography were written by a patient in a lunatic asylum." (*Obs. Dis.* p. 206.)

Of individual instances of exaltation under morbid influences, we quote the following :—"A young girl, cataleptic and epileptic, who had lived six months in France, in her ordinary state exhibiting very slight knowledge of the language, scarcely sufficient to enable her to ask for what she wanted at meals. Immediately before her cataleptic seizures she went into a state of ecstasy, during which she recited poetry in French and delivered harangues about virtue and godliness in the same language, pronouncing them well and never at a loss for words." (*Hammond on Nervous Derangement*, p. 117.) The

exaltation in this case, rather that of address and memory, as we cannot suppose, with the low educational attributes quoted, that they were original, probably exercises and addresses at the school which unconsciously were retained in the memory, and under the exalted excitation were rehearsed in character.

Van Swieten has related the case of a young dressmaker who had never shown the slightest talent for poetry, but who composed verses during the delirium of fever. M. Michéa observed at the hospital of the Bicetre a butcher boy, who in an attack of mania began to rehearse passages from the Phédre of Racine; he had only read them once, and after he had recovered his senses he could not recall a single verse. An Italian, Dr. Pezzi, relates that his nephew, subject to fits of somnambulism, had one day endeavoured to recall a passage, his efforts were unavailing, but in one of the paroxysms he not only recalled the passage so often sought for, but cited volume and paragraph. (*Journal of Mental Science*, VII. p. 81.)

Special exaltations are evinced in excitation in cases of imbecility and idiocy. Dendy quotes a case of a servant who lapsed into complete idiocy. Some time after she had typhus fever, and as this progressed there was a real development of mental power. At that stage when delirium lights up the minds of others she was rational, because the excitement merely brought up the nervous energy to the proper point. As the fever abated, however, she sank into her idiotic apathy, and thus continued till she died. (*Dendy, Philos. of Mystery*, p. 78.) The same writer also quotes several cases of exaltation occurring at approaching death. One, that of an insane woman of Zurich, becoming perfectly sensible before her death and wonderfully eloquent. A female idiot, who was dying of consumption, evinced the highest powers of intellect. Another case of a maniac who became perfectly rational a few hours previous to his dissolution. Also of a Quaker who, from the condition of

a drivelling idiot, became, shortly before his death, so completely rational as to call his friends together and bestow on them with pathetic solemnity his last benediction. (*Ibid.*)

Ireland records several instances in which Cretin idiots have manifested some mental powers of an exalted character. Thus, one Cretin was so skilful in drawing cats that he got the name of the "Cats' Raphael." A cripple idiot, in the Salpétrière, was noted for his great musical talents. One at Earlswood, who had special drawing and architectural powers. Another, noted for his arithmetical powers. A Cretin, at Salzburgh, used to solve the most difficult questions in mental arithmetic. The idiot at Earlswood, who constructed under exceptionally difficult circumstances a clever model of a ship. (*Idiocy*, pp. 287-290.)

The faculty of order varies greatly in individuals, even in the normal state some are scrupulously exact and regular, in this respect it may even be manifested to a state of exaltation. Thus, Dr. Cheyne relates the case of a lady who, when she returned from a party, even after midnight, never failed to visit her drawing-room, and if she found any furniture disarranged would herself, before going to bed, put every article in its allotted place. (*Asylum Jour.* II. p. 353.) The same sentiment has been exhibited by an idiot. Dr. Carpenter quotes the instance of one who "could endure nothing out of its position in order and in time. If any new thing was done to him at any minute of the day, the same thing must be done the same minute every day henceforward." (*Mental Physi.* p. 349.)

Another case of morbid exaltation of the sentiment is given by Dr. Savage:—A patient in Bethlem, who from morning to night was tidying, scrubbing, and putting his room in order. Afterwards he took to repairing the paths in the gardens; and the elaborate way in which he arranged every particular stone in the place he wished it to occupy, formed a good instance of the power for application to detail. (*Insanity*, p. 228.)

Nothing is more common than for the feelings to be morbidly excited, more particularly in women. This takes the religious form. There are many spouses of Christ besides Joanna Southcott; as St. Christine, abbess of St. Benoit. The same has been said of St. Catherine de Sienne and St. Gertrude. Hammond gives the case of a patient who fancied she was pregnant by the Holy Ghost, and that she was to give birth to the second Christ. (*Insanity*, p. 333.) At other times women cast their erotic sentiments on the clergy. Hammond records an extreme case. Winslow gives another case in which a young lady conceived an intense passion for a married clergyman, whom she had never seen but on one occasion, and then only for a short period in the pulpit. Her family knew nothing of the circumstance, until they received a visit from the gentleman, who had in his possession a number of epistles from the lady couched in very highflown amatory language. (*Obs. Dis.* p. 151.)

"Some of the female subjects of erotomania," says Dr. Hammond, "who have come under my notice, have evinced towards the objects of their passion the highest kind of devotional feeling, such as might be entertained by a mortal for an angel. But even in these cases the sexual instinct still exists and constitutes the foundation on which the exalted passion rests. It often happens that the subjects of emotional monomania do not restrict their love to any one person. They adore the whole male sex, and will make advances to any man with whom they are brought into even the slightest association. If confined in an asylum, they simper and clasp their hands and roll their eyes to the attendants, especially the physicians, and even the male patients are not below their affection. Barnett, who attempted to shoot Miss Kelly in Drury Lane Theatre, changed and lost the love which made him attempt murder and became a general lover, sending amatory poems to every young lady whose name and

residence he could discover." (*Hammond, Insanity,* p. 405.)

Few feelings excite more intense emotions in the morbid than the sentiment of fear. It presents itself before the diseased imagination in every possible form—ferocious beasts, monsters, murderous, and savage men. It sees the horrid shape as a dragon, a demon armed with fire, and mysterious. It may come as a nameless dread, dark, mysterious, unearthly, creeping through the shadows and threatening unheard-of horrors. Betimes it takes the form of suspicion—crafty cunning, malignant apprehension, daggers and poison its ministers; or disgust, dread and depair crouch at its feet, which threaten foul pollution, disease, and death. We need not specialize incidents; all are familiar with the intense terrors of murder, fire, and wild beasts, and the still greater horrors of eternal damnation that haunt the morbid brain.

To fully illustrate the morbid exaltations of the sentiment of self-esteem would be to quote largely from the annals of every asylum. They are manifested in hallucinations of every personal quality, every form of possession, every incident of character. One man fancies himself the possessor of thousands of millions of sovereigns, of shiploads of gold, silver, and precious stones. The treasures of the world are his; he has but to fill up a cheque, and he can command any sum. Others esteem themselves as lords and kings, great commanders, mighty warriors. Some are saints and angels, and there are few asylums that have not their Christs and Virgin Marys—occasionally a poor helpless lunatic esteems himself as the Almighty God. Nor are their pretentious feats less than their supreme personalities. One says he can lift the world; another, that all the children born allwhere issue from his loins. This man says he is heavier than the world, and that all the men in the world cannot lift him. (*Asylum Journal,* III. p. 170.)

A man supposed himself Atlas supporting the earth.

Another thought himself a steam engine, and mimicked one in motion. A foreigner believed himself to be Jupiter, and in that character made a great disturbance at Falmouth in 1860. (*Bucknill and Tuke*, p. 236.)

A few cases will suffice to illustrate the morbid activity of pride and vanity. A lady at the Retreat had visions in which she believed she had intercourse with supernatural personages. She also had ideas of her great family consequence, and she imagined she was heiress of a very large property. A German lady, whose husband in consequence of some service was created a baron, she becoming a baroness, then refused to sit at table with untitled people, or even live in the same house with them. She insisted on her husband going to Germany to reside, where, as she said, proper respect was paid to rank; and she strutted about with the airs and graces of an opera buff princess. (*Hammond, Insanity*, p. 407.)

In the *Journal of Mental Science* the case is given of a man whose delusion was that he was the richest man in Europe. He was Duke of Devonshire and Marquis of Westminster, and he was going to marry Lady Blessington. He had won five millions of money at the last Derby; had bought the Vatican and Fleet Prison, and intended to build a palace with the materials. He insisted that he sang beautifully. (VII. p. 99.)

Clouston gives the case of a tradesman sent to the Edinburgh Asylum, and says:—"It soon appeared that authorship, and poetry in particular, was his special weakness; along with this there was a peacock-like vanity in dress and demeanour truly ludicrous. By a pompous manner, a sesquipedalian speech, a combination of the juvenile and the Byronically-poetic in dress, and a very big book always carried under his arm, he showed his morbid vanity." (*Clinical Lectures*, p. 155.)

Betimes the disordered vanity and self-esteem take a very special form. Thus Bucknill and Tuke give the case

of a patient whose delusion was that she was her Majesty's person; she was not her Majesty, she said, but her Majesty's person, a distinction on which she laid great stress. She was proud and dignified in her demeanour. Out of the commonest materials she contrived to make a distinguished appearance. She fastened the skirt of her dress low, so as to form a sort of train, and with her arms folded, her head with its coronal ornaments thrown proudly back, she would, if permitted, maintain an erect position from morning to night; intense pride expressed in the turn of the head and the eye and in the firm compressed lips. (*Psycholog. Medicine*, p. 766.) In the same work is the case of a maiden lady of seventy, with many furrows in her face, decking herself out with antiquated foppery, all the colours of the rainbow on her person, with gilt and tinsel. (*Ibid.* p. 236.)

A case quoted by Hammond illustrates the passage of morbid vanity into frenzy. A young lady, from a disease in her childhood, had several places on her scalp bare of hair. These she managed to screen from observation, but as she grew up they were always present to her mind. At Paris she consulted the most noted dermatologists, but none could assist her. In the midst of her wealth her vanity was fearfully piqued. One day at table a gentleman eulogized the hair of a lady, her own sister-in-law. The next day she found the opportunity to assist that lady in her toilette, dressing her hair and handling it with as much *sang froid* as possible. Probably she hoped to find some hidden blemishes, but failing to do so, and her vanity overcome, she escaped from the room, burst into tears, and going to her own chamber, hung herself to the bed-post. (*Insanity*, p. 408.)

Betimes there is a reaction from the successful manifestation of self-dominant will, then conscience becomes exalted into remorse. Manoury, the enemy of Graudier, in 1634, got appointed to examine if his body was insensible. This

he did with much barbarity. After a time, the memories of the affair haunted his conscience, and ever he saw the figure of Graudier before him. "Ah," he cried, "there is Graudier. What do you want with me?" The illusion haunted him till he died. King Charles IX. is said during the St. Bartholomew massacre to have been haunted with hallucinations of the slaughtering of old men, women, and children. "Amboise," he said, "I do not know what has happened to me, for the last two or three days, asleep or awake, I seem to see those murdered bodies covered with blood, and making hideous faces at me." Other cases are quoted by Boismont of remorse bringing on hallucinations of the murdered man. (*Halluci.* p. 312.)

Forbes Winslow quotes two remarkable cases of remorse: —"The Abbé de Rancé became insane from the effects of remorse. His insanity was manifested by a state of frantic grief. To this succeeded profound melancholy. He sent away all his friends and shut himself up in his mansion at Veret, where he refused to see a single creature. His whole soul was absorbed in a deep and settled gloom. Hermetically sealed in a small room he even forgot to eat and drink; and when the servant reminded him that it was bed-time, he started as from a deep reverie, and seemed unconscious that it was not still morning. A faithful servant, who sometimes followed him by stealth, often watched him standing for hours in one place, like a statue, the snow, rain, and pitiless storm mercilessly beating on his poor head, whilst he, unconscious of the wild fury of the elements, was wholly absorbed in the gloomy silence of black and hopeless despair." (*Obscure Diseases*, p. 220.)

"A convict in Van Diemen's Land, after quarrelling with one of the overseers, brutally murdered him. He immediately escaped with a few clothes and a gun to the wild solitude of the bush. He lived for some time like a savage, occasionally making his appearance, armed to the teeth, at various huts, where he peremptorily demanded food. The

convict's mind succumbed to the severe mental agony, and he became a dangerous lunatic. He was eventually perceived to be under the dominion of a terrible hallucination. He imagined that he was constantly being pursued by the ghastly phantom of his murdered victim. He rushed frantically from tree to tree, from bush to bush, from house to house, endeavouring to fly from the clutches of some person constantly in his wake. Ultimately he surrendered himself into the hands of the police, alleging that utter annihilation was preferable to the agony of mind he suffered." (*Ibid.* p. 217.)

Nor is maniacal remorse only a feature in modern society. As Esquirol says, Orestes was pursued by Furies. Pausanias, the Lacedemonian, having slain a young female slave that had been presented to him, was afterwards to the day of his death tormented by a spirit which pursued him wherever he went, and resembled his victim. Theodoric having caused the decapitation of Symmachus believed that he saw the head of his victim in that of a fish which was served at his table.

We might illustrate other forms of discordination by the excessive devotion of the energies to one purpose, or feeling, or influence, until the fixed sentiment or idea engrossed all the energy of the individual: such as the abnormal jealousy of Othello, the mad anger of Lear and Achilles. In how many cases do we not see the money-greed unhinge the mind of the persistent speculator, the self-deluded gambler. It is often difficult to draw the line between honourable perseverance in one object or aim and that vaulting ambition which o'erleaps itself and falls on the other side.

Avarice often marks the degraded exaltation of one impulse, good in its incipient stages of feeling, and only implying prudence and forethought; yet in its most prominent expositions, when it becomes the one purpose for which the individual lives, it thwarts, annuls, or destroys the influence and power of every other thought or feeling.

Take the case of Elwes, who had an immense fortune, and owned large properties in London, and who yet lodged in one corner of one of his own houses that was so badly situated he could not let it. Here, with only the barest and most wretched furniture, without servant, and often in want of suitable food, his clothing only tattered garments from second-hand shops, his wig he had picked up in a gutter, he would not have his shoes cleaned for fear of wearing them out. He often ate refuse, and had neither fire nor candle. Yet while every social and personal feeling were thus perverted by the strength of his dominant idea, he never lost his moral principles. He was scrupulously exact in money matters, and a man of his word. Such cases are familiar in the records of eccentrics. Hammond says of a lady, whose will was disputed in the United States, that although worth several million dollars she denied herself the common necessaries of life. (*On Insanity*, p. 410.)

From the soul, only gratified by clutching untold gold, like Midas, let us turn to those many recorded cases in which æsthetic idealism ever has, in vain hallucinations, present to its senses and powers the most exalted conceptions of the objects on which its disordered attention becomes fixed. Have we not just now recorded the case of a poor wretch who in the foul blotches of his prison walls saw only beautiful fruit which tempted his every sense by their luscious fragrance, their exquisite taste, their beauties of form and colour? We read of a young lady, once occupied in art, who, becoming a maniac, passed the night without sleep, contemplating the beautiful pictures which she saw designed on the curtains of her bed and windows, ever breaking the silence of night with her expressions of rapturous delight. Often the æsthetic conceptions are modified by religious influences. Thus Esquirol gives the instance of a lady who, after the loss of her daughter, became deranged, and the forms of her

hallucinations were the blendings of her religious and æsthetic sentiments. Another like lady sees the vision of Jesus Christ, whom she described as tall, with brown hair and a fine figure, a pretty mouth, handsome teeth, and his language was mild. He was accustomed to come and take her by the arm and conduct her to a yellow chapel in the garden. He has sent her, she says, several letters, and pours into her cell the sweetest odours of jasmine and orange, on the walls he has painted landscapes and distant views, and he illuminates it every evening with brilliant stars. A military officer, in his exalted delirium, sees in the clouds a body of forty or fifty thousand men, which the Emperor Napoleon is receiving. (*Esquirol*, p. 196.)

Engelbrecht describes an ecstatic who affirmed that he had been transported in a golden chariot to the splendours of heaven, where he saw a choir of holy angels, prophets, and apostles singing and playing round the throne. The angels were like flames, and the redeemed souls as bright sparks; the throne was dazzling. These, like every other form seen in the so-called divine ecstasies, are but æsthetic idealities of what has attracted the eye to sacred forms in the ordinary art of the times. The deities of the savages, the heavens they dwell in, and the divine pursuits, are only those of their fellow savages. The Greek and Roman ecstatics of the old-world faith ever had visions of gods and goddesses, dryads and hamadryads, such as were painted and carved in their temples, and to which concepts all their æsthetic types were associated. So in the Middle Ages the visions of the æsthetically excited were ever derived from the carvings and paintings in the churches, and the ideal fancies depicted in their missals by the illuminatists or worked in tapestry.

Even in the visions of the morbid Cellini we trace the local origin of the ecstatic semblances. Cellini writes:—"I prayed with greater devotion than I had ever done before to be favoured with a divine inspiration. When I

had uttered these words my invisible guide hurried me away like a whirlwind to an apartment where he unveiled himself in human form, having the figure of a youth, with the first down on his cheeks, and of a most beautiful countenance. He showed me innumerable figures on the walls of the apartment. Then, lifting up my eyes, I saw a high wall on which the sun darted his refulgent rays. At last I discovered the solar orb, and, looking steadfastly on the great luminary, I exclaimed, 'O, brilliant sun! whom I have so long wished to behold.' Then I saw the whole force of his rays fall on the left side of the orb, and the centre of the sun swelled out and bulged, and, in a moment, there appeared a Christ upon the cross formed of the same matter as the sun. After, the sun swelled out again, the protuberance increasing until it was converted into a figure of a beautiful Virgin Mary, who appeared to sit with her son in her arms in a graceful attitude."

Ever the ecstatic frenzy has its origin in some form of mental and bodily excitation by which the organization and the mental forces are brought into deranged relations. It may occur from long-continued privation of rest or food, the mind dwelling continually on one sentiment or feeling, long continuance in a monotonous exciting rite, solitary self-communing sentiments of spiritual misgiving, dread of pollution, moral or fetish failure in religious duties, or any other influence in which the soul, cast out of its natural relations, ever conceives of supernatural influences and *outre* manifestations from another world. In many cases, as we have seen, drugs and intoxicating extracts have been the artificial inducing causes. The old Egyptian priests used the juice of hemp; the Siberian shamans, narcotics. A shepherd in Provence, according to Colquhoun, used stramonium when preparing himself for the visionary and prophetic state. (*Hist. of Magic*, p. 75.) More often a highly nervous temperament, a feeling of hysterical excitation, and more, a sensitive imagination

full of personal aspirations incites a sacred form of vain aspirations, hallucinations, spiritual and personal.

One or two instances will suffice to show the morbid religious personal self-conceit and hysterical sensitive vain glorification of the ecstatics and stigmatics. Jean de Rochet, a young lady of the Court of Louis XIV., has recorded, according to Boismont, her religious experiences in three volumes. She ate only once a day, sometimes she was forty-eight hours without eating or drinking, then the devil combatted with her, and showed her horrid spectres. She said, I have passed whole months without closing my eyes. For fifteen days I have wandered in the forest like a mad person, without repeating a prayer. Marie de Moerl, a nervous subject when a child, manifested the state of an ecstatic. When taking the communion she would remain kneeling on the same spot thirty-six hours; thousands came to see her, hence the ecstatics became more marked; afterwards it was noted that the palms of her hands sank, and subsequently the marks of the crucifixion occurred, as under the pressure of a body, in half relief. Then there appeared blood upon her hands, and like marks showed themselves on her hands and feet, then they shed drops of blood or were covered with a crust of dried blood. Betimes she acted the passion, simulating oscillation, depression, laceration by grief, then the rattle in the throat, breathing hard, the mouth wide open, nose shrunken, the eyes fixed, and bowing as if at death. This she exhibited weekly for some time.

These exhibitions, dating from the Middle Ages, occur often in Catholic countries. "Many ecstatics have presented in other parts of their bodies impressions in which the imagination pretended to decipher symbolic figures of the cross and various images of Christ. Even in the present day in Italy it is not uncommon to find in the convents, chapels, and churches, women who in praying take the position of Christ upon the cross, with arms

extended and head inclined, striking themselves in order to experience the pain of the piercing nails, and who, becoming immovable, finish by falling into a cataleptic ecstasy. One sister, Germaine, is recorded as on every Friday assuming the attitude of Christ on the cross, often remaining thus for forty-eight hours in a state of cataleptic rigidity." (*Asylum Journal*, II. p. 106.)

The inventive faculties in man to which we owe so much of our advanced progress, may, like other mental forces, be manifested in a state of discordinate exaltation. Hammond says:—One patient considers he has devised a machine for converting water into wine. According to him it is only necessary to pour the water into a receptacle attached to the apparatus, and to turn a crank, when wine of the best quality flows out of a spout at the other end. Another conceives he has discovered a powder which, when administered to women, causes them to fall in love with the giver. A man had the delusion that lead cut into strips would float; on this he made a jacket of cut strips, attached it to his person, threw himself in the sea and was drowned. A plumber, who had been experimenting on solders, said that while sitting in his shop reflecting on the best modes of making lead pipes and solders, he heard a whisper telling him to soak the lead in shark's blood and the solder in shark's urine, and that then neither would give way." (*Hammond, Insanity*, p. 333.)

We will conclude the subject of mental exaltation by a few notes on the expression of similar states in animals. Mania may become specially marked in any animal form, and hydrophobia itself, occurring in several animals as well as man, implies how allied may be the deranged state in the co-ordination of the faculties. Of the furor and madness of horses, bulls and cats, there are many accounts. Nor are we without narratives of the same state of morbid depression in animals as with men, leading to suicide.

There are many cases which illustrate that the mental phenomena of animals in sleep partakes of the same characteristics as man. That they dream is familiar to most observers. We will quote two instances. Dendy, in *Philosophy of Mystery*, says:—"On the night of the 6th of April, 1811, about ten o'clock, a dunnock, *Accentor modularis*, was heard in a garden to go through his usual song more than a dozen times, very faintly, but distinctly enough for the species to be recognized. The night was cold and frosty" (p. 274). *Chambers' Journal* (September 16th, 1876, p. 595) tells of a pet starling talking in its sleep, and pronouncing a dog's name, and calling it, a thing it never did in the waking state.

Animals are also subject to the same mental conditions resulting from alcohol, and also most probably from drugs, as men. M. Magnan produced experimentally very vivid hallucinations in dogs by injecting alcohol into their veins. The animal starts up, stares wildly at the bare wall, barks furiously, and seems to rush into a combat with an imaginary dog. After a while it ceases to fight, returns, growling once or twice in the direction of its discomfited foe, and settles down quietly. (*Maudsley, Pathol. of Mind*, p. 261.)

As by the exaltation of special faculties men have advanced from brutes, may we not through the powers of exaltation learn to form some concept of the evolution of the human mind to a supra-human manifestation? Essentially the attributes that in the exalted normal state induce the higher mental attributes find more vigour and enlarged forces under certain normal influences. We trace mental power even among the normal, as expressed in various grades, so with the morbid, certain characteristic forms advance far beyond their manifestation in normal conditions. More, the essence that sustains all the common energy in the organism among the insane, rises to far higher tension, a more exalted nature and capacity of

endurance far beyond anything known in the normal state. The insane can resist deleterious influences and sustain the co-ordinate life under conditions of temperature, disease, want of food, repose and sleep, before which the normal human would quickly perish. Have we any like manifestations in the insane of more than human mental manifestations?

Perception, thought and memory may vary among the normal, but the general extent of their range and the relation of the mind with the past, with time and space, though expressing considerable distinction, can all be classified as of the same genus. In no case is the rapidity of thought, the activity of the perceptive powers, beyond the range of language. It is this feeling that induces the concept of the natural alliance and dependence of thought on language for its exposition. But in mania language is too feeble a vehicle for thought, it passes through ten thousand forms in less time than a few words can be spoken; with the rapidity of light, the speed of the lightning flash, it stimulates ideas and ranges through space. So it is with it in time. Who has not seemed to live days and years in a dream that may have lasted only a few minutes, and could never have exceeded an hour's duration. Under the influence of opium or hasheesh ages of time and thousands of adventures may accrue in one short night. Who has not read the strange and weird-like experiences under these conditions of the *Opium Eater*. More, the rapid visions and ideas passing through the mind in delirium fail to find words, or long incidents are contained in interjections, and the facial muscles express, more than the lingual apparatus, the profusion of the ideas present in the mind of the maniac. The discordination in general in these cases is so great that the memory of the patient fails to grasp their presence, all pass away, and of the exalted products of the mental tension no record remains.

In the *American Journal of Insanity* we have a case in

which the exalted manifestations of a delirium do not pass away. The patient, like De Quincey, continues *en rapport* with her delirious impressions, and for the first time we are presented with the exposition of an exalted mental status, having some associative principle evincing some co-ordinating influences, and presenting a possible mind-standard far exalted above the common mental characteristics of mankind.

An intelligent lady, after an attack of acute mania, described the influence of the exalted state on her mind. She said:—"At times it would seem that every thought that had occupied her mind could be reproduced at will, and that the power of the will was so great that she could conceive of nothing as impossible; that the rapid transitions from one subject to another, which to the minds of those about her constituted the incoherency, was not to her a confused intermingling of strange and discordant thoughts, but every subject touched upon was grasped and disposed of systematically, but, at the same time, with such lightning rapidity that words were of no use, the whole matter being disposed of before half a dozen words could be uttered.

"She would be for hours holding imaginary conversations with people she had known; her own mind not only putting the question, but furnishing the proper replies. She said the constant dispositions to mark the walls of her room, which her attendants could not control, was the attempt to resolve abstruse mathematical problems, that had occupied her mind at school, and which she thought she had entirely forgotten, as she could not now recall them in her convalescent state.

"During her attack of mania, she said, it would now seem that her singular mental experience could only be crowded into an ordinary existence of ages, and that she cannot regret this, for without it she could have no conception, as she now has, of the unlimited capacity, power, and energy of the human intellect under certain conditions of disease."

(XXIV. p. 373.) Can we conceive it possible that powers of such an exalted nature will ever be manifested under normal conditions? Such a supposition implies that physical conditions, such as are present in mania, become constitutional; that corresponding energy becomes a concrete quality in the organization; and mental qualities of the exalted nature we have described would require other means of exposition than the ordinary system of words and signs now prevalent; in short, they would be representative of a new physical organization and a new mental status, whose co-ordinate workings it would be as impossible for us to conceive as it is for the higher animals to present to their minds the qualities and resources of the human intellect.

CLASS IV.—Abnormal Discordinations by Reversion.

CHAPTER I.

Physical Reversions.

In investigating the forms of co-ordinate physical and mental organisms we became conscious that there is a large class which manifest various forms of derangement, and that instead of the forces being in harmonious relation the one with the other, that sundry and betimes varying impulses obtained the ascendency, and caused the co-ordinate harmony to fail. We have now to trace the results of these derangements, the preponderance often the lower manifestation of certain faculties. In doing this preliminarily, we have to point out that some form of co-ordination in the relation of the various mental and physical powers is the necessary attribute of every organism, that there is in all an inherent co-ordinating conservatism that, after any lapse in harmony, any more or less general derangement of the organic unity, be it physical or mental, or both, it endeavours to remodel the individual forces and re-arrange them in some associate order. Detergent influences are cast off, the leading faculties predominate, and the lower powers work as well as they can in unison. As in the body politic, so in the individual organization, the *émeute* becomes a revolution which establishes a new form of

government; it may be not an exaltation, but a degradation in principles. Still the social organism has to go on the best it can, and such is also the case with the individual co-ordination, and we often see as a consequence in place of the higher normal harmony there ensues a reversion to a lower co-ordinate state.

The fact is, that when we speak of a normal organic being, we are speaking of a something which is more a form of words than a living fact. There is no permanent state, no continuous organic type in the individual, ever the forces that give it oneness are growing, changing, modifying, or decaying. The physical organism of to-day will not be the same to-morrow, nor is it now as yesterday. So it is with the mental powers; they eliminate, they deteriorate, they alter in their respective influences, they mark changes in power, in nature and arrangement, the play of the feelings and the influence of the mental forces are ever in oscillation, desires change, hopes vary, the controlling pursuit of the past gives way to new influences, and the character of the being is no longer what it was. Ever the whole of the elements in its nature are in a state of oscillation, they are never in equilibrium, rarely for a moment in equipoise, a word, a glance, may alter the balance, and a new arrangement of the forces be started.

These may in general tend to evolve but little differences, the necessary changes that mark the progress of the boy into the man, or the new feelings and tendencies that growing age necessitates. But often the influences induced have a wider range; they denote derangement, degeneration, the giving way of moral control, of intellectual energy, of physical powers. The man is there, but he is not the same being, the personal sentiments are degraded, the moral powers are vitiated organically, nerve and muscle have lost tension, and the intellectual character is reduced to zero. We can no longer class him as A 1; he

has fallen by reversion, and according to the capacities he now exhibits we re-classify him, or vaguely speak of him as an imbecile or idiot.

It may be that the decadence had its origin anterior to its individual life, it may be due to some old ancestral or parental discordination, and which it inherited. But whatever the cause, for they, as we shall see, are many, it marks deterioration, reversion, that is, a retrogradation to a lower type. We accordingly arrange these reversionary forms according to the type of the general system of organisms to which they approximate. We accept the scale of evolutions, advancing from the lowest undifferentiated organic type to the highest differentiated organism, from the lowest manifestation of undeveloped mental will to the highest exposition of its powers in abstract conceptions and vast generalizations.

It may be said that such a scale is not yet defined, that there is no absolute line of progression, and that consequently it is not possible to define the status of each organism. This is in some measure true, and the difficulty arises from our incapacity at once to take full cognizance of all the numerous details in the modifications of organic forms and faculties, and the many varied expressions of feelings and mind-powers. Had the advance of the physical and mental attributes of all beings been in one line only, the task had been simple, but in every stage of complexity in progression, divergent formative characteristics induced divided series of differentiations, so that while we might follow in many instances the direct chain of evolution, we had to take account of the side branches that were cast off as it were from the main line of progress, and as these became more and more divided and distinct, the complicated nature of the differentiations rendered the concepts of the various interrelations of organisms more abstruse. This will be more apparent when we remember that each lateral branch, while following its own general organic type, had to evolve each faculty, physical and

mental, in accord with the common universal standards of progression. Through this we may comprehend the difficulties that have presented themselves to the evolutionist in attaching the many representatives of the lateral branches to their due status in the whole scheme of differentiations.

But these difficulties, due to, most probably, our ignorance as yet of generalizations, we may one day discover do not preclude us from generally apportioning to each organism its proper status, and, in a great measure, to characterize its relations with other organisms, and the general common unity of the whole. Practically this is done by all of us in treating of the various classes of men in society, we grade them according to their intellectual manifestations, their moral proclivities, their aims, modes of procedure, and pursuits. We thus, often without knowing it, assume a scale of mental and social differentiations in common society. So, also, in considering other races of men, whatever their specialities, we classify them according to their affinities with the social scale we have evolved at home. Even when we carry our investigations into the animal series a like process intervenes, and we classify the lower organisms in like manner by their mental affinities. We do not arrange their status by line of descent, but by the standard of their mental manifestations; hence, the dog, the cat, the elephant, and the horse, though advancing on lateral lines, take their status beside the lower Simiæ.

But while we may not define the actual scale of progress, we all act as if we assumed that there was such a scale, and it is on this assumption that we shall proceed in considering the many human reversions to preceding types of mental and physical organization with which we are cognizant. These have often been described generally, or on special points, but never, as we believe, with a full concept of their fulness and great importance in illustrating the nature and evolution of the mental powers.

Reversions to previous mental states and the forms of primitive mental imagery, may ensue in the minds of the less developed members in civilized communities, and these survival forms of past states and past mental concepts may be exhibited in aborted mind-powers having a low calibre, the result of personal or hereditary degeneracy; they may be temporarily present in dreams and illusions, they may be produced by drugs, by mental or other agencies, or manifested through morbid, mental, or bodily changes. We find that they occur in somnambulism, in mesmeric and hypnotic excitations, but more especially in discordinate, mental, and physical states.

Our enquiry now is limited to human reversions, and we have to consider them under the following general classes:— Physical reversions, reversions to lower civilized states, reversions to semi-civilized states, to intermediate barbaric states, to low-class savage states are very common. Beyond these, we have reversions to the impulsive states of the lower animals, even to a pre-conscious state. The integrity of the higher co-ordination is never absolutely lost, it ever remains prominently apparent; no animal degenerate ever took an animal form; even the greatest physical degeneracies are limited in their formal expression. A great physical organic change seems impossible, and as we infer that all advance has been by single, slight differentiations, it is not reasonable to expect that physical degeneration should take place in leaps. Not so with mental manifestations—the capacity for mental changes seems vast, not merely a weakening of power, for that applies to all physical capabilities, even to degeneracy by atrophy of every bodily faculty, but to actual change of nature and absolute reduction to any lower stage of mental manifestation. Is there one among us who has not had to deplore the wreck of a good, if not noble, mind, and, with harrowing heart, traced day by day the gradual change of character, the growth of suspicion, of hatred, the truthful becoming

a liar, the scrupulously just a low, crafty thief, the chaste and pure in thought and deed the associate of libertines polluted in body and mind; nay, even falling to a lower level, a mere animal beast? These degradations occur every day, and the expression of every mental faculty may be lowered to any animal standard, and though the man physically may be only partially degraded, the mind only expresses the lower standard of powers to which it has degenerated.

It will be remembered that Weismann's law of development intimates that in advancing to a higher type the organism induces at every advancing stage an earlier manifestation of the new differentiation; now, the application of this acquired character under reversions has not yet been worked out, we feel assured that the higher status of the obtruding new differentiation must complicate the forms of reversion, and this, no doubt, accounts for the partial characteristics—all reversionary degenerations present.

Special Physical Reversion in Man.

As will be observed from the following list of human degradations, they apply to every part and every faculty of the organism. They may be limited in the individual to certain of its members, but it is noted as a common circumstance for the lowered standard of conformation to be expressed on both sides of the organism. Whatever the status to which it degenerates, the organic energy endeavours to establish a lower co-ordination. Sir Henry Holland noticed this. He wrote:—"Where abnormal varieties of the muscles occur, there seems a strong tendency in those varieties to become symmetrical for the two sides." (*Medical Notes*, p. 30.)

In the worst instances of reversion the physical powers become as discordinate as the mental, and betray a like lower range and a like failure in the powers of co-ordina-

tion; the binary members may vary in form, in power, in unison of action, in response to externals. The divergences in similar parts may be more or less marked, and the cohesive instability of the whole more or less apparent. The reversionary character may be more extreme, sometimes a single power may be wholly wanting, atrophied mental or physical, but in the worst cases of idiocy all is loss, no power exhibiting any exaltation, while the greater portion, both physical and mental, not only exhibit a want of co-ordinate reciprocal association, but each is variously degraded to other lower types. It does not necessarily follow that such extreme deprivations should affect the mere animal vitality of the individual. There are cases in which the animal powers scarce advance above the standard of invertebrates, and yet the individuals have lived to the full adult age.

Of the general character of this low class of human beings, we read that:—"Profound idiots live to adult age, and there are examples of men-babies who are as solitary as when they were born, and quite as helpless. The face of the profound idiot is without expression; the saliva often runs in large quantity from the large open mouth, with its irregular teeth, high palate, and large lips, and the nasal mucus assists to render the face disgusting. The eyes may or may not squint, their vision is very slight, and they may be now fixed staringly on vacancy and now wandering vacantly and without speculation; there is no light in them —no merry twinkle, and the head moves often from side to side. There is no visual perception in the lowest of the profound idiots, and it exists only in a slight degree in those which emerge into the second class. There is no ability to recognize one person from another by sight alone. The reflex gifts of the eyelids are so sluggish that the finger may be steadily poked right into the eye or on to the cornea without winking being produced. The eye cannot be moved by will in the direction of an object,

and bright light will often prove no incentive to cease staring or to attend. The ears are often misformed, and the power of hearing exists generally, but not the capacity of listening. The voice is limited to screaming or howling, and sometimes one or two parrot-like syllables are uttered. In many the process of mastication is impossible and deglutition is very difficult. The position of the head and trunk is either couching or reclining. The trunk and limbs are not in correspondence as regards power. Curvature of the spine, pigeon-breasts, bowing of the limbs, enlarged joints, contracted extremities, club feet, and shortening of the limbs, with irregularities in the number of the fingers and toes, are more or less common. The co-ordination of muscles in their movements is very deficient. The bladder and rectum are unable to retain their contents, or the contrary state occurs. They cannot feed themselves; there is no idea of foresight or of seeking food. The erect posture is impossible to the majority, and a few stumble about and crawl. The legs and hands cannot be used for any necessary purpose. The heart is irritable, the pulse often slow or intermittent or unusually quick—the breathing, in some cases, spasmodic. The digestion is weak, the urine and fæces stinking. Their skin is dull in its sense of feeling, parts of its surface now and then exquisitively sensitive. The perspiration is fœtid, the temperature low. The sleep deep, and the hunger voracious. Waving of the head and fingers often automatic. Memory, in some none, in others the barest trace Appreciation of kindness manifested in the slightest manner. Pain shown by unreasonable cries; pleasure in some few by a vacant smile. There is cerebral, spinal, and excito-motor action; they are never deprived of all special sense, however low it may be. Reflex movements may be excited, and there is some volitional action." (*The Journal of Mental Science*, VII. p. 243.)

There are idiot reversions in which the low class instinct to suck is lost, and who never swallow unless the food be

placed in the pharynx (*ibid.* XI. p. 7); in whom sensation s so little manifested that they tear, bite, and mutilate different parts of the body, unconscious of the evil inflicted. One penetrated his cheek, and then forced his finger through the commissure of the lips. Two are known to have amputated the organs of generation, and treated the emasculation as a joke; one in a short space of time lost several toes and part of a foot by exposure to cold and gangrene, without much disturbance to his system, and with a total disregard to the wounds. (*Ibid.* XI. p. 6.)

The special senses may be reduced to so low an expression that "the experience derived from the palate constitutes the only intercourse with the external world, the only obviously appreciable source of knowledge and happiness. Here psychical existence must be summed up, so far as it can be derived from external intimations, in one sensation. It is difficult to realize the mental condition which is confined to savours. Were it not for the manifestations which grow up around the mere act of sensation—were there not an election, signs of pleasure and repugnance; and where muscular power exists, the closure of the teeth or lips to exclude the offensive morsel, many of the phenomena might be regarded as beyond the range of cognition. Their notion of self cannot pass beyond an agreeable taste, their notion of time the period between the palate being titillated. Even when special sense is manifest the mental power is often so low that it can but partially take cognizance of the attributes presented to it." Many of the phenomena observed in idiots, even of the lowest type, justify the conclusion that individual properties are selected and remembered to the exclusion of others; or that certain impressions only reach and become objects of consciousness. One idiot perceives only certain tones, another certain shades of colour; a third fails to realize the notion of resistance, and receives blows and bruises in a vain conflict with insensate matter, while he recognizes musical intervals

and the relations of numbers. Such impressions expand, and fill the whole mind; and it may consist of forms, colours, and their signs, and nothing more." (*Ibid.* XI. pp. 7 and 12.)

We can only fully comprehend the gradations and the nature of human reversions by classifying them according to the types they represent; and to do this we must trace, in a retrograde direction, the later advances that the great evolution of human and animal organisms presents to us. These reversions, when physical, are usually considered as arrests in development, occurring, may be, through hereditary derangement, or due to accidents or special circumstances, when in the embryonic state; or they may be after-changes during or subsequent to growth, resulting in timal changes in the organism. But beyond these, there are the derangements of the organic constitution induced by the individual itself by mental or physical agencies; and even beyond these there are reversions produced by disease, and others whose presence we readily recognize, but whose cause we cannot fathom. Thus a vigorous physique may become relaxed, a form of grace and beauty become coarse and vulgar, and the full perfectibility of any limb or muscle lose form, character, and power.

General Physical Reversions in Man.

On this subject the observations of Dr. F. J. Shepherd in America correspond with those of Mr. Wood in London (*ante* I. p. 204). He says:—"No two individuals have exactly the same anatomical structure, and nearly everyone has in him some bony prominence, supernumerary muscle, or abnormal blood-vessel which tells the tale of his descent. I have carefully noted the variations occurring with the result of finding that scarcely one body is perfectly normal in every part; nay, many are very abnormal, having as many as thirty or forty variations in their bones, muscles or arteries. I have found variations to occur more frequently in Negro

and Indian subjects than in those of European descent." (*Quoted Jour. of Sci.* VI. p. 668.)

Physical Reversions in Man—Structural.

Osseous.—Occipital bone may be in several pieces, as is the permanent condition in reptiles and fish. The ribs may be arrested in the mammalian, bird, or reptile stages. They may be deficient in number. Vertebræ may be changed, deficient and vary. The humerus or other bones of the arm may be deficient, or even absent; fingers may be defective or absent; the patella may be absent in two generations. (*Holland's Medical Notes*, p. 33.)

The general ossification bird-like in reversion.

Muscular Reversions to the Ape form.—In rectus abdominis—Pyramidalis, sometimes absent, ape-like—Biceps flexor—Extensor indices proprius—Palmaris longus—Pronator teres—A multiple of the psoas magnus, ape-like—Adductor brevis of the thigh, divided ape-like—Plantaris of the leg like the palmaris of the hand, a tendency to ape-form—Flexor longus digitorium communis and extensor communis digitorum brevis, ape-like.

General Reversions to Mammalian types.—Rectus capitis posticus major, as in ruminantia; also, Rectus capitis laterales — Sterno cleido mastoidens — Deltoid muscle divided—Muscles of the hand generally arrested in the foot form—Gemelli of thigh deficient—Quadratus femoris and sartorius absent—Biceps femoris mammal type.

Reversion to the Bird type occur in a thin accessory muscle from the second dorsal vertebra—The rectus capitis posticus major double, as in birds—The third pectoral muscle bird-form, also the deltoid—Biceps flexor.

Reversions to the Fish type take place in the levator anguli scapulæ.

Vascular.—The heart is subject to various reversionary arrestments, even as in cyanosis, to the foramen ovale, never

closing, reducing the temperature of the body to the reptile state. The effect of this abnormal arrestment is to produce a livid hue, a low blood temperature like reptiles, the man is sluggish and devoid of continuous energy, and it shortens life. In arrested development at a lower stage, a child having but one auricle and one ventricle, the permanent type in fish; the child lived seven days. In some cases the arrested development has set in before the formation of the heart had taken place; in these instances the malformed never had an independent existence.

Arrested developments of the cerebral and brachial vessels occur in various stages, from that of the ape to a reptilian character. (*Carpenter, Hum. Physiol.* p. 295.) The arteries vary in size, in position, they double and are irregular, they enter through different vertebræ, they also vary in number, in insertion and in volume. The veins vary in like manner.

Nervous System.—The brain varies in size, in conformation, in structure; and, as well as the various living types classified by distinguished naturalists under special names, there are those taking various animal conformations among natural idiots.

The spinal cord may be deficient, the bilateral nerves are irregular, and the cerebral nerves differ in volume, form, and origin.

Organs of the Senses.—The ear: this may take when rudimentary, the reptilian, bird, or even the crustacean type. (*Meckel,* II. p. 238.)

The eye reverts to the mammalian type, as also is the case with the nose. The mouth has certain low types, as the hare-lip and the cleft-palate.

Digestive System.—The stomach of the negro, ape-form. The stomach takes various animal forms. (*Meckel,* I. p. 385.) The gall bladder sometimes absent, the permanent state among various animals. (*Meckel,* II. p. 409.) Men ruminating their food, cases of.

Respirative System.—The lungs taking the type, as with the ruminantia, the cetacea and reptiles. (*Meckel*, II. pp. 433-453.) Thyroid gland as in mammalia. (*Meckel*, II. p. 460.)

Reproductive System.—Fissure of clitoris, animal form. Mammæ multiplied as in mammalia.

"Among male idiots and imbeciles, instances of deficient or excessive development of these organs common, in females an abnormal formation of the sexual organs. There can be little doubt from the number of such instances that the androginous character is frequently accompanied with mental imbecility." (*The Journal of Ment. Sci.* IV. p. 93.)

General Reversions. — Small-pox entirely alters or exaggerates the bent of the disposition. (*Hammond on Insanity*, p. 25.) In genetous idiots the most common physical reversions are hernia, wad-shaped fingers, one or two toes of abnormal shortness in each foot, squinting, rolling of the eyes, fissures of the iris, strange shape of the ears, club foot, the testicles occasionally wanting, deficiencies of the valves of the heart, abnormal distribution of the blood-vessels, obulated form of the kidneys. (*Ireland, Idiocy*, p. 51.) Bucknill and Tuke, describing cretinism, write:—There is no known instance of a child becoming a cretin after eight years of age. Occasionally it evolves after mature age, but the degeneracy is usually manifested from birth to five years of age. The symptoms they describe as slow development, swollen belly, attenuated limbs, their teething late, some never walk or stand alone. The lowest only manifest vegetative functions, and become old at fourteen years of age. (*Psycho. Medi.* p. 167.) The swollen belly and attenuated extremities of the cretins are the characteristic features of most savage tribes, more especially Australians and Fuegians.

Ireland (*Idiocy*, pp. 51-54) refers to instances in which the general physical reversions have simulated the lower

class human types. Thus Dr. Langdon Down points out a Mongolian type; others have seen in the general expression of idiots, North American Indian, Ethiopian, and Malay varieties.

Of general reversions Darwin quotes other instances in his *Descent of Man*. Thus supernumerary digits sometimes occur in man, and they are found on the type of some of the ichthyopterygia. The uterus in women not very infrequently furnished with cornua, as in mammalia. The canine teeth sometimes project as in anthropomorphous apes.

"The acromio basilar muscle is found in all mammals below man, and it occurs in about one out of sixty human subjects." (I. p. 62.) Dr. Haughton gives the case of a variation in the human *flexor pollices longus*, and adds:—This remarkable example shows that man may sometimes possess the arrangement of tendons of thumb and fingers characteristic of the macaque. But whether such a case should be regarded as a macaque passing upward into a man, or a man passing downward into a macaque, I cannot undertake to say. (*Ibid.* I. p. 63.)

The integument may be modified to lower animal characteristics. There have been the hairy family of Burmah, with the cuticle covered with long hair, like monkeys; there was the porcupine man, exhibited as a monster; and we are told that Edward Lambert's whole body, with the exception of the face, the palms of the hands, and the soles of the feet, was covered with a sort of carapace of horny excrescences, which rattled against each other. He was the father of six children, who presented the same singularity, and it was kept up for five generations. (*Ribot, Hered.* p. 7.)

Blumenbach, as quoted by Elliotson, says:—"Human monsters are not unfrequently met with, strongly resembling the form of brutes, but I have never found among brutes a true example of monstrosity which bore any analogy to the human figure."

All the structural alterations we have described, as well as the intellectual and emotional we shall present, have been degradations in the direct line of descent. Physiologists may differ as to some of the details of this line, but all admit that there are other lateral branches, and that progress to the higher types in these has been independent of like stages in the direct line. At present we intend only to show that such declensions are possible, the influence of such on the theory of descent we shall have subsequently to consider.

Reversions to Lateral Characters.—As the ribs to bird or reptile forms; the ossification, as Holland shows, is bird-like. We have the characteristics of ruminantia as rectus capitis posticus major, and rectus capitis lateralis, also the habit of chewing the cud. Meckel refers to several reversals to the bird type and the fish type. The respiratory system is sometimes reduced to the type of ruminantia, cetacea, and even reptiles. (*Meckel*, II. pp. 238, 433, 453.)

CHAPTER II.

Reversions to lower Civilized States.

These forms of reversions are both numerous and varied in character; they may be general or special in their effects; due to hereditary taints or evolved during the periods of growth. In some they originate in accidental circumstances, or they may be self-induced by violating the necessary conditions requisite to preserve the co-ordinate integrity. They may arise from disease, or from circumstances whose origin and influence we are unable to trace; they encompass every mental advance that man has made, every phase and form of human thought and feeling that ever marked a special habit, ever was attached to a co-ordinate system. There is not a family sentiment, a social custom, that ever became general among men, and was ultimately succeeded by a higher evolved attribute, but may, under some form of reversion, be revived in a relapsing mind so as to become to it a present and necessary reality—a mental force that commands its attention.

These general remarks apply not only to reversions to previous human stages, but to all the expressions of reverted sentiments denoting animal attributes. As it is possible for the reversion in human form and with human members to present the characteristics of a beast in modes

of action, in habits, and in the forms of thought, even the perceptive powers transform the bodily parts to those of the animal it conceives it is. Hence it has the claws and teeth and hide of the special animal to which it is mentally assimilated. "See," said a wretched patient to Morel, "see this mouth, this is the mouth of a wolf, there are the teeth of a wolf, I have cloven feet. See the long hairs which cover my body. Give me raw meat, for I am a wolf."

Nor is this animal propensity the lowest depth which the human mind can fathom, it may have feelings, propensities, and impulses only explainable as in affinity with the invertebrates; others that imply the manifestation of a pre-conscious state.

The first series of descents are analogous to those exhibited by races in a lower civilized state: they represent vague personal property assumptions and personal rights, class distinctions, man's supremacy and woman's submission to his assumptions. Moral probity is but inefficiently expressed, and individual and class supremacy are sustained by partial laws. Social associations are influenced by the same class feelings, while the supernal concepts retrograde from general laws to the mediation of saints, dependence on rites and ceremonies, as in themselves influencing the relations of the human and divine.

The second series of degeneracies are characterized by still lower manifestations of individual and class, and represent a lower moral as well as social status. Property is for the strong, murder is settled by compensation; woman is but property to man, and though moral probity is acknowledged, craft is approved. The feelings only speak, and social ties are accepted through formal ceremonies. While the deities, but representing the social relations, are tutelar, clan gods, or guardian powers. They are to be approached, like their human antecedents, with sacrifices and gifts, self-torture and ceremonial incidents.

To the third class, representative of barbaric societies,

lower moral and social concepts appertain. The old common right to property is denoted by kleptomania, the sentiment of individual revenge predominates, lewdness is permissive, and crafty lying and deceptions are general. The supernatural forms and conditions are of a like low grade, and though some supernal divinities are accepted, charms, tabu, myths, and witchery are presiding spiritual influences.

The lowest man-state, our fourth class, is representative of the state of savages, and is specially marked by the unconditional fear of the known and the unknown. Food voracity, cannibalism, uncleanness, shamelessness, promiscuity, indiscriminate slaughter and revenge, unevolved family feelings and social states, interjectional speech, ghost personalities, as evil only, and vague fetish powers.

In the fifth, the animal class, we find ferocious propensities, indiscriminate voracity, heterogeneous sensuality, the only expressive sign a howl or cry.

Lastly, we have some few signs of degeneracy to almost vegetative vitality.

Before tracing these many forms of degeneracy, we must make one observation on the nature and limits of the co-ordinate variations and the principles they involve. Thus each mental attribute, each moral force, each physical faculty and member, can only revert in accord with its general nature and the special principles that guided its advance from a lower stage. There were sundry laws or principles that guided the progress of each new physical differentiation, each new moral and intellectual differentiation; while each worked in accord with its own special tendencies, all other powers and impulses in the organism did their part in aiding, upholding, or even restraining the new influence, so that we never find an advance was made, but the new accord was a balance of forces. Sometimes we can note that, as in the Amphioxus, certain important structural parts were held in abeyance, while in

others, as in some of the early Cephalopods, a special sense received a high state of advancement. There are also special groupal evidences of the advancement of sundry mind-powers, which we need not detail, as that of music, speech, memory, imagination, colour sense, craft and cunning, sense of common justice, cleanliness, and so forth. Any one of these characteristics may be accompanied by a very low manifestation of other powers, and yet the co-ordination that is the specific and generic characters are genetically continuous, thereby implying that the co-ordinate equipoise is maintained.

Now that such balance has accrued, not only in the later evolutions in the forms of humanity, but that they were equally powerful in the evolution of the animal types, will serve to account for the facts we have spoken of, and others we shall bring forward to demonstrate that reversion in no case need be general, but may occur in any faculty or power, while the rest retain their co-ordinate special uniformity. Nay, do we not often observe that atrophy degeneracy of various distinct kinds, even cessation of vital energy, may affect only one faculty, member, or part of an organism, which reverts to a lower standard, while the rest remain normal in character?

Such being the case, it need excite no surprise that most commonly reversion is singular and special, but there are some others in which the degeneracy affects groups of powers. Each of us must be familiar with instances of both kinds in the general relations of life that illustrate several of the stages in reversion, and special cases of great degeneracies will be detailed in their due sequence. Dr. Rush, of Philadelphia, at the close of last century, was one of the first to write upon this subject, and he recognized all the points we have presented.

He writes:—"I once knew a man who discovered no mark of reason, who possessed the moral sense or faculty in so high a degree that he spent his whole life in acts of

benevolence. He was not only inoffensive, but he was kind and affectionate to everybody. He had no ideas of time but what were suggested to him by the returns of the stated periods for public worship. He spent several hours of every day in devotion. There are persons who are moral in the highest degree as to certain duties, who nevertheless live under the influence of some one vice. I knew an instance of a woman who was exemplary in her obedience to every command of the moral law except one. She could not refrain from stealing. Such was her propensity to this vice that, though in easy circumstances, when she could not lay her hands on valuables she would fill her pockets with bread." (*Medical Inquiries*, II. pp. 10-13.)

Dr. Rush also observes of morbid changes :—" How often do we see the temper wholly changed by a fit of sickness. And how often do we hear persons of the most delicate virtue utter speeches in the delirium of a fever that are offensive to decency and good manners. I have heard a well-attested history of a clergyman of the most exemplary moral character who spent the last moments of a fever, which deprived him both of his reason and his life, in profane cursing and swearing. I once attended a young woman in a nervous fever, who discovered, after her recovery, a loss of her former habit of veracity." (*Ibid.* II. p. 11.) He also noted the higher exaltation of certain mental faculties that temporarily accrue under great physical excitation. " Patients in the delirium of a fever often discover extraordinary flights of the imagination, and madmen often astonish us with their wonderful acts of memory. The same enlargement sometimes appears in the operations of the moral faculties. I have more than once heard the most sublime discourses on morality in the cell of an hospital, and who has not seen instances of patients in acute diseases discovering degrees of benevolence and integrity that were not natural in the ordinary course of their lives?" (*Ibid.* II. p. 12.)

The physical degeneracies are, as we have instanced, simply tendencies to, or actual reversions to, the lower type, sometimes in form, in substance, or in action; mental changes may be to lower activities, lower instincts and impulses. We have to remember that no idea, concept, or special sentiment ever passes from one mind to another, no animal or child ever inherits a personal thought, form of feeling, or special deduction; these are products of the individual organism, retained in the memory by the individual faculties, and perish with the individual. An idea to be retained must become concrete in words, in writing, in objects, and only by such means can its permanence be upheld. The action of the individual on his inherent mental forces is either to exalt, or depress, or retain them, and as he received them by heredity, so continue them to his offspring. Degeneracy, of which we are now treating, does not ensue from his implanting lower ideas in their minds, but from his degenerate actions, inducing a lower mental tension of the special faculties. The impulses work under a lower class standard, and the ideas that thence ensue are the due result of their impulses in relation to surrounding conditions. The change is a change in the volitional powers, not on their application. Thus, the man of civilization never becomes an actual savage man; some of the normal instincts of civilization continue to manifest themselves; in the profound idiot the changes that actually accrue in their characters, are simple reversions to the impulses natural to the lower class organization, and the man is still a man, though only influenced by the wildest sentiments of a savage or the ferocity and nature of a beast.

Some of the lower simple reversions have excited a sarcastic smile at the absurdity of the idea of Pinel's idiot manifesting the emotional feelings of a sheep, or Vogt's microcephales exhibiting the volitional and emotional attributes of anthropoid apes. If we are to judge of mental

attributes by the character of the mental activities, we can do no less than accept the nature of the expression as deciding, so far as those special expressions are concerned, the mental status of the organism.

Great degeneracies, such as we are now describing, are necessarily very rare, but partial reversion to animal appetites, animal propensities, are unfortunately too common. Our police courts, our criminal statistics, the records of asylums, and even private households, have in their unpublished annals innumerable instances of uncleanness, shamelessness, indiscriminate promiscuity and moral perversions, that would, could they comprehend them, cause the sheep and the baboon to cry shame.

Necessarily the lesser degeneracies are the simple decline from normal conditions, and are most marked in normal stages. All the points marking the first series of degeneracies are so familiar to us in ordinary society as scarcely to call for comment. In most instances, politically and religiously, they are altogether ignored; even the first stages of moral perversion, though they may rouse a doubt in the sensitive mind, rarely are characterized by social interdict. The man must have fallen somewhat low for even respectability to shun him, save and except a mere innoxious class distinction intervene, then the line may be drawn as much in exaltation as in degeneracy.

There are certain standard forms of thought and modes of action that mark every stage in mental progression. These are the necessary co-ordinate expressions of the then status of the mental powers, which in all states of being give special forms to the emotions and impulses and necessitate distinct lines of conduct and principles of action. The mental powers themselves, the moral impulses, and the æsthetic feelings in every advance assume a higher and higher standard, and endow the relations of man with his own nature, with his family, and society generally with a higher purpose, a more exalted discriminating activity.

All must admit the wide differences, intellectually and morally as well as socially, between the civilized and the savage man, and distinctions of a like nature, though less in degree, characterize every stage in human progress.

Degradation to lower types may be due to genetic reversion, but much ensues from personal reversion; every man has in his own hands the power of personal exaltation, and every one may, by giving way to vicious habits, degrading associations, and the wilful or careless neglect of his own bodily and mental powers, reduce his physical standard and intellectual proclivities. Other causes, as we have shown, may bring about deteriorations, but these in general represent great declensions; the passage from the higher to the lower state of civilization in the individual members of the more exalted communities is mainly due to self-neglect and perversion. Do we not day by day observe the falling off of some individuals from the associations and promises of their early youth. They neglect their pursuits, form lower class associations, acquire injurious or baneful habits, lose the higher sentiments in their natures, give way to their selfish immoral propensities, or at the best waste great opportunities in fitful action or idle, listless *ennui*.

We need not portray this class of reversions by quoting instances. There are few families of any extent but grieve over the moral, intellectual, may be resulting physical deterioration of some of its members. Women and wine, game and deceit, have their influence, but there are the still wider series of declensions from the greed of selfish impulses, instigated by the whole energy of the individual, becoming personal—living, may be, only for his belly, his pocket, his position, and foregoing to cultivate the social feelings, morality of action, and the æsthetic claims of his own spiritual nature.

Our police news and the records of criminal trials amply confirm, in all respects, moral deterioration in all its

aspects. These changes may occur in childhood, but often they only become prominently manifest at puberty, or even later in life, when eccentricities mark the breaking up of the moral and social integrity.

The forms of the religious declensions from the higher mental status are manifested normally by a willing clinging to the direct interposition; the guidance and rule of Providence becomes a marked feature; God intervenes directly in all human affairs, and the special mode of intervention depends on the special religious formula. A William Huntingdon finds the Divine favour ever answer his earnest prayers, and a new suit of clothes or a freehold house are the direct evidences of Divine grace. Ever it becomes manifest under associate conditions, and the influence of heaven is as prominently manifest in the faith in the Messiah, in the womb of Johanna Southcott, or the divine origin of the Book of Mormon, as in the immediate inspiration of the Holy Spirit sustained by many, and the no less religious faith in spiritual manifestations.

More prominently it is presented in the many forms of nervous contagion in which, as in the revivals in Belfast and in Kentucky, the spiritual retrogressions are manifest. In the Ulster revivals of 1859, we read that the multitude believed that their physical sufferings during conversion were in some sort to atone for sin and reconcile them to God. In effect, they considered the revival a material influence, taken like some attack of small-pox or scarlet fever, which was to work them untold good. Of the nature of religion, good thoughts, good feelings and a good faith, they had and have the slenderest conceptions imaginable. Of the mental state of some we may judge by the following:—"A careless, cursing creature, and one greatly opposed to the revival, was seized in her own kitchen. Her appearance was most satanic. Her cries were terrific. She declared that Satan and all the devils in hell were around her. Swooning, insensibility, trances and visions, prophecies and

stigmata were all received as signs of the spirit." (*Jour. Ment. Sci.* X. p. 160.)

At the Belfast revivals, girls who could not read—like as among spiritualists, hypnotists and somnambulists—pointed out, with closed eyes, successive texts, which being joined together formed beautiful discourses. Mr. Brownlow North commanded, in Belfast, Satan to come out of an aged person. A minister took the hand of a seemingly insensible girl and made her rise and walk. Another minister informed his audience that, coming to preach to them, he had thrice been roused from slumber by knockings at his door and the wailings of damned souls. A third related to an awe-struck crowd that he had seen the word Lord impressed on the tongue of a pious young person incapable of fraud. (*Ibid.* X. p. 160.)

We may turn from these religious reversionists to whom the laws of nature are being continuously superseded by supernatural powers, both good and evil, and trace the expression of like sentiments in the reverted mind of Emanuel Swedenborg. His history plainly manifests various forms of religious and moral degeneracy. A co-ordinate mind knows no antagonism, never conceives that the I could conceive evil impulses, much less that it should listen to such from outside itself, but Swedenborg not only exhibited these morbidly insane symptoms, but he had hallucinations of taste and erotic thoughts. He had delusions of the presence of God, angels and devils, he had illusions of the power of his curing diseases by command, he had impulses to kleptomania. "Certain spirits," he said, "often wished to excite me to steal things of small value. They actually moved my hand." He had hallucinations of taste; twice sugar tasted almost like salt; nice things became nasty to him. He said, like so many lunatics:—"The spirits plot to induce me to commit suicide." He felt in the hair of his head at night multitudes of small snakes. He said the Quakers have a vile communion of wives.

Of spiritual communion we have many records demonstating the intimate relations supposed to exist between men and superior powers; now they are reserved for spiritualists, dreamers and ecstatics, but in the sixteenth century they were common and familiar. Dr. Dee asserted with the greatest pertinacity that he was on terms of intimacy with the greater number of angels, and Dr. Richard Napier, father of the inventor of logarithms, believed that he received the greater number of his medical prescriptions from the angel Raphael. Few practitioners then thought that they could complete a cure without the aid of some supernatural power, like the faith-healers to-day.

The hallucination of the presence of a divine personage is one of the commonest in insanity. It may start in the presence of fear, and then it is an evil spirit, a monster; if ecstasy causes the excitation, it is the appearance of God and angels; if the fear is that of sin, then the state is accompanied with the horrors of eternal damnation. It is a very common thing for the insane, particularly if religious feeling has tended to evolve into mania, to conceive they have committed the unpardonable sin and are reserved for the devil and his angels. According to Hammond, a young lady told her mother that she had committed the unpardonable sin, basing her idea on a dream she had, when an angel appeared to her and sorrowfully announced her destiny, and keeping to this delusion she sank into a melancholic stupor. (*Insanity*, p. 246.)

The state of mind that makes divine illusions possible is seen in the following case:—Esquirol describes a lady patient who saw, for a year, the Virgin Mary sitting near to God. Afterwards she had impulses of suicide, but God appeared to her in church, where in sorrow she went, and God commanded her by an oath to live. After she was, as she said, transported to the sixth heaven where she saw things more beautiful than she could describe, the recollec-

tion of which filled her soul with inexpressible delight. (*Insanity*, p. 102.)

The sentiment of sin finds various forms of expression with divers insane persons. Savage describes a woman who moaned aloud and wrung her hands, saying she had destroyed the world. She is described as restless, meagre and solitary in her habits, and for ten years she continued to lament the evils she was causing. (*Insanity*, p. 229.) Another woman was overburthened with the idea that her unworthiness had caused the death of her husband and the ruin of her children, and that she, an unpardonable sinner, must live on for ages, like the Wandering Jew, in her inhuman and unnatural condition. (*Ibid.*)

The sin may even be a childish sin, a sin of tabu, as in the case recorded by Boismont, in which a girl hears a divine voice reproach her for the sin of having put her doll upon the Bible; probably she had been told it was naughty to do so. The same individual in after years, when married, dreamt the Lord appeared to her and talked to her for half an hour. Again, when in trouble, on awakening, she saw a man with a celestial countenance in a robe of blue, his face as clear as crystal, who looked on her with tenderness, saying, persevere; and an angel by his side repeated, persevere in prayer, in faith, in works. Then a devil appeared, but the angel shoved him out with its elbow. (*Hallucinations*, p. 207.) The celestial features, the blue robe, the crystal countenance, no doubt derived from the reminiscence of some missal with its illuminated drawings, or a painted altar-piece with figures of saints, angels, and devils.

The concept of being grievous sinners, and of thereby having fallen out of grace, is the leading feature in the various revival manifestations, hence the despairing exclamations, the hysterical convulsions, and the other remarkable symptoms of emotional excitement. In *Letters from New England* we read of the influence of Whitfield's

preaching, and the result thereof maniacal-like expressions of sin and repentance. "You hear screaming, singing, laughing, praying, all at once, and in other parts they fall into visions, trances, and convulsions. When they come out of their trances they tell a senseless story of heaven and hell, and whom and what they saw there. In their trances they neither hear nor see, nor feel any more than if they were dead. In some towns several persons, both men and women, that formerly were sober, and to all appearance truly pious, are raving distracted, so that they are confined and chained." (*Quoted in Mayo, Hist. of Magic.* II. p. 76.)

The same clinging for some *outre* demonstration may have a seeming philosophical origin, such as have been put forth in our own days to account for seeming supernatural expositions. The doctrine of signatures belonged to this class of mental phenomena. The theory advanced was that every natural substance which possesses any medicinal virtue, indicates by an obvious and well-marked external character the disease for which it is a remedy, or the object for which it should be employed. Mandrake, from its human resemblance, for sterility; Turmeric for jaundice, because of its colour; euphrasia for eye complaints, because it has a black spot on the corolla like the pupil of the eye; and bloodstone for bleeding, because of the spots on it. (*Paris, Pharma.* p. 33.) Like ideas, a sort of new doctrine of charms, have been evolved on many other classes of objects, as the language of flowers, the signs of gems, planetary influences, and so forth.

Thus Mesmer, memorable for his introduction of the doctrine of mind-influences standing in his name, defended at Vienna, in the year 1766, the thesis that there is a general influence exercised by the planets over all living beings on the earth, and that this influence manifests itself chiefly in those functions of life which belong to the nervous system, such as sensation, motion, sleeping, waking, and mental operations. Mesmer conjectured that the magnet was a

symbol of those cosmical influences, and in conjunction with Hell tried to effect cures in what are termed nervous disorders by friction with magnets. Afterwards Mesmer declared that he did not require the magnet at all, for his cures, for that he had the power within himself. (*Feüchtersleben Medical Psychology*, p. 60.) We might refer to many degeneracies of thought manifesting a lower mental state that have been both special and general.

CHAPTER III.

Reversions to Semi-civilized States.

Its distinguishing characteristics are the assumption of property by the strong, the crafty. Strength gives wealth, and wealth may compensate for its crimes. Moral probity may be admitted, but crafty success is most held in honour. Woman but property to man, and no obligation, not even friendship, binding but by formal rites. They look for tutelar and guardian powers in the skies, and hope to win their support by sacrifices and expressions of self-degradation in the forms of ascetic torture—Sin, Pollution, and Fate.

There are often individuals, even in the highest social states, who descend to the mental status marked by this class of mental degradations. Their moral standard gives way, and they fall back into the criminal class, with their hands against every man; or their intellectual status is lost, and they subside into some form of spiritual fatuity. So the like two classes of deteriorations ever mark the signs of morbid degradation. In the one class the lower degraded state results from self-neglect, self-abuse, the influence of detergent habits; in the other, some change of bodily condition reduces the harmony of the co-ordinate powers, and they after become re-established on a lower basis. A blow

on the head deteriorates the moral nature of the individual, an epileptic fit entails on its unfortunate recipient ever after a failure of the concept of the rights of others. So moral insanity follows an attack of scarlet fever, and paralysis, dementia, mania and induced idiocy are commonly marked by the exhibitions of forms of kleptomania.

Even in the dream-state in somnambulism, in the hypnotic and mesmeric discordinations, though only temporary, the same change of character and loss of moral coherence is manifest. Thus in dreams, those morally just and truthful give way to all kinds of fraud and lying, and commit crimes of the blackest dye with cool, self-asserting villainy. In dreams, whatever the issue, in questions of personal safety, we cast aside all moral considerations. Man in his dreams is often a savage. Speaking of himself, Dr. Maudsley says that "he several times had vivid dreams that he was conducting a *post-mortem* examination, when the body came to life and quietly rose. On one occasion I seized a wooden mallet and struck it on the head, on another I thrust my hand into the open chest and tore out the heart. On all occasions there was the same resolution to escape at any cost from the consequences of cutting up a living body." (*Pathol. of Mind*, p. 33.)

Of moral change in mania, Dr. Savage says:—"The one character of the disorder is complete moral perversion. In one case the patient always showed evidence of an approaching attack of insanity by changing his religious creed or by seeking some new spiritual guide. Later, he threw up all religious ideas and gave himself up to sensual indulgence. In another case, a man who held an important position in a public office, and a representative of respectable dissent, took to visiting public-house bars, making love to the barmaids, and indulging in cocktails and cigars in a way which scandalized his religious friends." (*Savage on Insanity*, p. 112.)

In tracing the nature and causes of moral degradations,

we cannot but remark that they embody some of the most special characteristics that distinguish the mental and physical co-ordinations. It is apparent that the mental and physical integrity, from the incidents we have quoted, may be changed in response to many intervening conditions, and consequently that it is possible for a man of the most refined character, from no direct self-action, to degenerate to a much lower standard. In other words, that as men have advanced to higher and higher conditions, they may in a like way equally degenerate, and it is observable that, though we may classify all physical and mental co-ordinations in a graduated scale, any individual being, whatever its status, may, at any time, by influences over which he has no control, degenerate to a lower standard. We even must recognize the fact that his status as a man may depend on an apparently trivial incident, the impinging of a fragment of bone on the brain, the excitation of a tumour, the deranged activity of an artery.

Thus Dr. Wigan gives the case of two boys, noted for their love to each other; all of a sudden the eldest took a dislike to the younger, this in time was converted to deadly hate. He ill-used him, and afterwards attempted to kill him by throwing knives at him, at the same time gradually growing into a fury. Then he formed a sort of platonic love for a lady. At last a surgeon, who examined his head, discovered a depression from injury; he applied the trephine, the sunk bone was removed, and from the under surface of the bone grew a long spicula of bone, piercing the brain; when it was removed the half-demented youth became himself again, resumed his attachment to his brother, and became indifferent to the lady. (*Dual. of Mind*, p. 194.)

It is not at all necessary when the mind of the individual is reduced to the lower status that there should be an exciting want necessarily inducing the special form of impulsive activity. Whatever the mental condition, the

volitional impulses will ever take the form represented in that special stage of co-ordination. This, as exhibited in the nature of the moral impulse, we have already seen, but the following cases will most emphatically determine its essential cause:—Victor Amadeus, the first king of Sardinia, on all opportunities was in the habit of appropriating trifling articles. In like manner, Saurin, pastor of Geneva, although imbued with the highest powers of reason and religion, failed in this moral characteristic, and succumbed at every opportunity to the desire to thieve. Another individual, a prey to this inclination, entered the army for the purpose of being restrained by the severity of its discipline, but, continuing to thieve, was on the point of being hanged. After he studied theology, and became a Capuchin, but his propensity followed him into the cloister. He took scissors, chandeliers, snuffers, cups, and goblets, and carried them to his cell. A government employé had the singular mania of only stealing household utensils. Lavater mentions a medical man who never left the room of his patient without taking something. At night his wife searched his pockets, and found in them keys, scissors, thimbles, knives, spoons, buckles, and needle-cases, and returned them to their proprietors. Moritz relates the case of one with this propensity, at the point of death, stealing the snuff-box of his confessor. (*Jour. of Mental Science*, VIII. p. 272.)

To be a boaster and telling lies on purpose to gratify self-esteem is another mark of a lower mental status, and this change of character may result from moral degeneracy. Dr. Clouston gives the case of a "naturally truthful man, who, when his illness began, took to telling lies wholesale about everything, and for no purpose or motive. He was boastful to an absurdity. He was a marvellous swimmer, a splendid boxer; he would dilate with circumstantial detail on the number of expert swordsmen he had overcome and killed, and on the pugilists he had thrashed to within an

inch of their lives. He said he was going out to the war, and would soon be made the general of the Servians. Yet, like other great boasters, he was a coward. When he was taken by the asylum attendants they expected a desperate resistance; but with no resistance, no fight at all, this wondrous pugilist collapsed at once." (*Clinical Lectures*, p. 154.)

To fully account for all the various manifestations of organic co-ordinations, normal and morbid, we have not only to take into consideration the unstability of the vital standard, and that the status of beings depend upon their condition, but that in the ever-varying incidents of growth and decay any lengthened duration of one phase of existence is impossible. There are various phenomena of vitality wholly out of our physical and mental field of cognition. There are not only vibrations of sound that never act upon the human ear, and shades of colour that fail to reach the human eye, but there are innumerable changes in our co-ordinations that we cannot perceive, or that when recognized we fail to account for. We cannot recognize any law that should make organisms susceptible to special local diseases. Still less can we explain the organic change in their constitutions that preserves them ever after from the same morbid influences. Nor can we see how and why moral and mental derangements follow alterations in tissues, or in any way account for the singular nature of the unstable conditions that result in the transference of morbid or other properties from the mental attributes to the physical, from the organic faculties to the emotional impulses. We are fully aware that no great disruption of co-ordination takes place, but that there after ensues, as a bye result, some disintegration in other organic faculties distinct from those affected by the morbid state. Fevers, rheumatics, brain disorders, mental and volitional derangements may pass away, but they ever leave behind them some hitch in the harmony of the

co-ordinate relations—some failure in the action of the heart, the liver, the nerves, or muscles. It may be a new or estranged movement, a form of habit, a weakness in some very special and distinct faculty, may be no more marked than the turn of the finger or a slight variation in the perceptive powers of the eye.

On this subject Dr. Savage favours us with some important observations, and, more, makes us familiar with the fact that it is possible for a bee to distinguish discordinations not perceptible to humanity. "It has been said," he observes, "that a bee-master, before he had an attack of small pox, was able to handle the stinging insects with impunity; but after his recovery he was no longer able to follow his occupation, the bees discontinuing to like him, and even not tolerating his presence. I have seen several patients whose temper and dispositions have been markedly affected by an acute illness, such as rheumatic fever, so that a patient who had been of quiet, industrious, and domesticated habits and a good wife, became, after recovery, a selfish, indolent, home-neglecting person." (*Insanity*, p. 13.)

The same writer remarks, when the mania or delusion is overcome "the patient may be morally damaged, so that he takes to evil ways. After discharge they frequently decline to follow their old avocation; they often give way to drink, and not uncommonly pass into the criminal classes. Besides, moral perversion may follow; some intellectual peculiarity may be the scar left, and the patient quitting the asylum has now some habit which for the rest of his life stamps him as an eccentric. He may be solitary, penurious, given to odd ways of dressing and living, he may be in the habit of talking to himself, or he may have some one special delusion which he keeps out of sight of the ordinary friend, but which nevertheless influences the rest of his life.

Acute mania may be succeeded by any one of the many

varieties of weak-mindedness, so it may leave him fairly well behaved and fairly active, but his whole intellectual being has been reduced to a lower level, so that the man who was a leading barrister may now be content with a supply of drawing materials with which he passes his time in making hideous copies from the illustrated papers. Another man, who was an officer in the army, is now content to polish pebbles against the wall in the hope thereby of getting a cigar or a little tobacco from a visitor in return for his genius; while others become hewers of wood and drawers of water to an asylum. In Bethlem, an old bank clerk cleans the floors and fetches the meals, having no longer any wish to return to his former occupation. (*Ibid.* pp. 118-120.)

Moral degeneracy in this stage has fallen to a lower level than in the preceding. Society condones successful craft, and social institutions favour and uphold the moral aggressions of power. Gambling, which in the higher stage was merely tolerated and upheld by theories of honour, in this stage is a general and accepted mode of acquisition. Lying is shrewd craft unless denounced by a fetish oath, and the only restraint on lewdness is position, social and religious.

We will quote various instances to show the general decay of moral power in this state arising from very various morbid influences, which more or less reduce the moral faculties to lower manifestations. Thus, moral insanity followed an attack of scarlet fever; it began when the patient was a boy, in his failing to distinguish truth from falsehood, in choosing low society. This was followed by a propensity to steal, and at puberty he had so far committed himself that he was confined in a lunatic asylum. (*Bucknill and Tuke, Psy. Med.* p. 247.)

A young girl, brought up under the most refined and moral influences, gradually exhibited a coarseness of manner and of language, and an immorality of ideas,

shocking to all with whom she was in association. She defends the most atrocious criminals, and that in words never heard in polite society. (*Hammond,* p. 487.)

A young man, after scarlet fever, losing the distinction between truth and falsehood, though truthful and conscientious before. While making a high profession of religion, he was deceiving himself and friends. He choose low society in preference to the refined associations by which he was surrounded at home. For some time after his illness his regard for truth had disappeared. He distinguished between *meum* and *tuum,* but this distinction was after a while removed, and he possessed himself of some articles of little value which he evidently appropriated from a morbid desire to steal, and not from any use he could make of the articles. He had to be placed under restraint. (*Bucknill and Tuke,* p. 247.)

A child had pertussis at three years of age, followed by symptoms of hydrocephalus, from which she recovered, but ever after there was a marked perversion of the moral feelings without any failing in the perceptive faculties, and although her judgment is far from good, there is no decided lesion of the understanding. She is quick, has an excellent memory, and can acquire knowledge easily, but though in the abstract she knows the difference between right and wrong, she has appeared incapable of following the former like other children. Education failed to counteract the most determined propensities to falsehood and theft, and at the age of puberty the sexual instinct was strongly developed, and has ever since formed a prominent feature in her malady, in consequence of which she was placed in an asylum when only seventeen years of age. (*Bucknill and Tuke,* p. 246.)

Another case of moral insanity through a fall from a horse. (*Ibid.*)

A patient in the Dublin Asylum exhibited a total want of moral feelings and principles, yet possessed considerable

intelligence, ingenuity, and plausibility. He appears totally callous with regard to every moral principle and feeling, and so thoroughly unconscious of ever having done anything wrong, so completely destitute of all shame and remorse when reproved for his vices and crimes, and has proved himself so utterly incorrigible throughout life that any jury would return him as insane. (*Bucknill and Tuke*, p. 243.)

Another case of good mental powers, but moral principles from the first debased. (*Ibid.* p. 244.)

Crichton Brown says:—"Moral insanity is of frequent occurrence in early life. The intellectual faculties of the person affected by it remain entire and unimpaired. He is perfectly capable of perceiving and knowing and judging. He cherishes no delusion. He cannot, in the ordinary and legal acceptation of the term, be pronounced insane, and yet he is to all intents and purposes of unsound mind, and as much requiring guidance and restraint as the furious maniac. He suffers from entire perversion of the moral principle, from the want of every good and honest sentiment. He is actuated by the most selfish, depraved, and cruel motives, he presents, in short, a perfect picture of a desperado and ruffian." (*Jour. Ment. Sci.* 1860, p. 314.)

A case where the patient, after for over an hour filling the doctor's mind and note-book with the record of her many ailings, when asked in conclusion if that was all, coolly said there was not a word of truth in all she had said to him. (*Hammond*, p. 495).

A lady, moving in good society and happily married, accomplished, and well educated, of sweet temper, and her mind under religious influences, manifested at the age of forty-five a sudden and extraordinary change of character. She became irritable from trifling causes, was continually quarrelling with her husband and the servants, discharged the tradesmen, accusing them of acts of dishonesty, and offended her friends by her rigid and repulsive manner. This continued for two years, then a new phase of the

malady exhibited itself. She accused her husband of infidelity, and produced a series of anonymous letters affirming the particulars of his *liaison*. Afterwards she had an epileptic attack, when it was discovered she had written the anonymous letters herself, and had addressed and posted them to herself. (*Forbes Winslow, Obscure Diseases of the Brain*, p. 93.)

A youth's moral character became completely changed in consequence of a severe injury. After his recovery his whole moral character was found to have undergone a complete metamorphosis. From being a well-conditioned boy, kind and affectionate, steady in habits, sober, and of unimpeachable veracity, he became a drunkard, a liar, and a thief, being lost to all sense of decency and decorum, his every action was perfectly brutal. Prior to his illusion, he would hang with endearing affection round the neck of his mother, but after this sad change he attacked her with brutal and savage ferocity. (*Forbes Winslow, Obs. Diseases*, p. 95.)

A boy at the age of thirteen stripped himself and exposed his person to his sisters. (*Ibid.* p. 98.)

A person, high in office, from having been generous and honest, had for more than six years exhibited great sordid avarice and unbridled licentiousness. He became mean, refused to pay his debts, purloined objects. (*Ibid.* p. 207.)

A girl in a convent told her father she had been made the victim of unheard-of atrocities; the father went to the authorities; they elicited that the whole statement was a tissue of falsities, on which he was so mortified that he committed suicide. (*Hammond*, p. 496.)

A young lady had pains such as would be caused by a small animal biting and tearing her with his teeth, in addition, an irresistible impulse to swallow pins and needles. These, she said, she had extracted from her thighs, arms, breast, and neck, even as low as the feet; one had come

out of the eyeball, two from the ears, a dozen or more from the vagina; many had passed the bowels and bladder. On being examined by the physician a pin was found protruding from the skin of her left forearm, below the elbow; another from the breast below the mammæ, another from the skin of the back on the right side, two below the umbilicus, sixteen in the vagina. The whole of these, instead of being swallowed as she said, had been inserted in her body as if it had been a pin-cushion; all had the heads outside, those in the vagina were in a bundle. Afterwards Mr. Hammond removed fifty-two pins and needles from various parts of her body, including ten from the vagina, all with the heads and eyes pointing outward. On being charged with having herself inserted them she confessed to it. (*Hammond*, p. 499.)

Cerebral hæmorrhages and embolisms are almost invariably accompanied by marked emotional derangement, and often to the extent of completely reversing the normal tendencies of the patient. The greatest change is in the emotional faculties, laughing at the veriest trifles, shedding tears if a funeral passes, or he reads the obituary in the newspaper. (*Hammond*, p. 24.)

It frequently happens that a man noted for probity and integrity, in an insane state becomes dishonest, embezzles, and robs, cases quoted. (*Boismont*, p. 142.)

Females who have been well brought up use gross words and commit immodest actions, whilst those of loose morals appear reserved. (*Ibid.* p. 148.)

A lady, under an indefinable dread, changed from a temper remarkably mild and equable to irritable and fretful, and to indulge in invectives and complaints to a degree that rendered her a troublesome inmate. (*Hammond*, p. 342.)

"There seems to be with the majority of the patients an inveterate tendency to practise the most unnecessary and illogical frauds, and to tell the most improbable lies without

any apparent object in view, or any purpose to subserve, unless for notoriety. In furtherance of the purposes of deception, they often do not hesitate to accuse themselves and others of the most preposterous crimes, they deceive with equal pleasure their husbands, parents, and confessors. If they have any bodily disease they exaggerate all the symptoms; if none, they manufacture one for the purpose of deceiving their physicians, and show the utmost satisfaction when, through their lies and lamentations, they have succeeded." (*Hammond*, p. 495.)

In another case a young woman, by wearing pads over the abdomen and gradually increasing their thickness, led to inquiries from her mother and suspicions of a tumour; when told that she was to be taken to an eminent surgeon, the girl, with tears and lamentations and self-reproaches, confessed she was pregnant. For some time she refused to say by whom, but finally came down in the morning with a letter to her father, in which she made a full relation of the circumstances, and declared that a gentleman they all knew was her seducer. Arrangements were made for her confinement, and it was proposed to hasten a marriage with the gentleman, who was offered by the father instant marriage or instant death from a pistol presented to his brains. Denial and expostulations were useless, and in fear of his life he consented, only on condition that he should have an interview with the lady in the presence of her parents. At the meeting, the gentleman, who was a lawyer, succeeded by his tact in questioning her to expose the fraud, when she made a full confession that she had simulated. (*Hammond*, p. 500.)

A governess, suffering from active melancholia, was in the habit of purloining articles of clothing belonging to other patients, securing in the most adroit way the best articles, especially those which were less recognizable, and effacing the various marks in ways which one could never discover. She was as able a liar as she was a thief, and

protests of amendment and contrition were always followed by fresh depredations. This conduct, we found, was in opposition to all her old habits. She herself owned to the inability she felt to control the desire to appropriate." (*Savage, Insanity*, p. 271.)

Kleptomania.—A girl, whose parents were in most affluent circumstances and without any inducement to crime, was repeatedly in the habit of stealing silver and copper money belonging to her parents and others, and throwing it away in the shrubbery. She had stolen money from the servants, and stolen articles and put them into the servants' boxes. She had stolen biscuits and bread from a shop, articles of jewellery, and had concealed them. Neither the entreaties of her friends nor punishment could influence her, yet she volunteered confession and penitence with the assurance of her total inability to resist the inclination, and a declaration that she always feels different to usual when she steals. This girl was also a liar, scratched the backs of the looking-glasses, and disordered the furniture. (*Bucknill and Tuke*, p. 279.)

Kleptomania was a characteristic in one family for three generations—grandfather, father, and son. (*Ibid. Psycho. Med.* p. 280.)

A lady, subject to periodical attacks of insanity, said: "I have such a mad longing to possess myself of everything I see, that were I at church I should steal from the altar without being able to resist the impulse." (*Bucknill and Tuke*, p. 280.)

An Irish lady of ample fortune was found on examination, after committing some petty thefts, to have only one under-garment; that was made of chamois leather, and covered with pockets conveniently placed for the concealment of her booty. When in prison, under pretence of inspecting some newspapers, she sent for a box, from which she was observed to abstract a parcel which, on examination, proved to contain cash to the amount of more

than £2000. She was discharged from prison on a rainy day, and, to save cab fare, requested permission to stay over the night. (*Asyl. Journal,* III. p. 168.)

A young man, a salesman, from having been slow in his movements of mind and body, and late at office, suddenly exhibited a complete change in all these respects: became assiduous in his work, was the first to arrive, bustled about ceaselessly and watched everything, at the same time giving orders with the greatest earnestness; this was followed by hallucinations. Afterwards his case assumed another aspect: he sold goods under his charge for less than they cost, made presents of whole cases to the wives of purchasers, reported sales which had never been made, so that his employers were obliged to dispense with his services. (*Hammond,* p. 356.)

Helena Jegado, a French woman, between 1853 and 1857, killed twenty-eight persons by poisons, besides several unsuccessful attempts; they were masters and mistresses, fellow servants, friends, and nuns, displaying to them all the while the utmost tenderness. She had committed thirty thefts, burned various articles of clothing in her charge. She said, "I always steal when I am angry." She affected great piety. (*Hammond,* p. 374.)

A person of my acquaintance had his whole character changed by a slight attack of cerebral congestion. Naturally he was of a good disposition, amiable in his character, and considerate in his dealings with others, but after a vertiginous seizure, attended with unconsciousness of but a few moments' duration, his whole mental organism underwent a radical change. He became deceitful, morose, and exceedingly overbearing and tyrannical towards all with whom he came in contact, and whom it was safe for him to maltreat. His likes and dislikes were entirely reversed in many important instances. (*Hammond,* p. 25.)

The religious sentiments that express the reversion to a semi-civilized status are, as we have seen, dependence on

tutelar and guardian spirits, sacrifices, religious remorse and concepts of personal sin and pollution, the presence of evil, ascetic virtue, moral vows and the overpowering rule of destiny. These sentiments may be expressed by some in the normal state, their mental concepts fail to attain any higher standard while under morbid conditions; such reversions may take place in mania and even in sleep.

Guardian and *tutelar* spiritual powers. The spiritual dependence and bond of affinity between ghost-spirits and human beings, which had its origin in the tumulis and sepulchre, culminated in all countries when the people advanced to the standard indicated by us in tutelar and guardian powers. At first mere men-gods, they became nature-powers, rising in every evolution until they became supreme in heaven, then their ministering and dependent agencies assume the active energies that affect humanity, the higher beings becoming more and more abstract entities. Some of these guardian sub-deities were only special tutelar powers; others, with more general influences, became, as the Virgin Mary, more or less universal protectors. During the Middle Ages these psychical expositions varied from the local saint or martyr, whose prestige scarcely passed beyond the village or monastery which his life and death sanctified, to the saint honoured through a province, to the apostle or martyr who became the divine guardian of a race or nation. In the era of warriors these guardian spirits became warriors. Thus after the battle of Dorylæum, St. George and St. Demetrius were seen fighting in the ranks of the Crusaders in a *melée* at Antioch, armed and led by the martyr St. George, St. Demetrius and St. Theodore descended to earth to help their despairing followers. At the siege of Jerusalem Godfrey and Raymond saw a knight waving a buckler on Mount Olives and giving a signal to the Christian army. They cried out, "St. George has come to succour the Christians." At the siege of Damietta the Egyptian captives said they had seen men clothed in white, with white armour, fight-

ing before the tower was taken. An eye-witness saw in them the angels of the Lord. As it was with great personages, so was it with great events; and even the humble ones of the earth in their tribulations were ever relieved by the presence or reputation of a more humble saint. Ever in this social state the mind clings for succour and protection on some divine power, ever its evil influences are the results of evil spiritual agencies.

So it is with men and women of the day. When morbid and detergent influences reduce their mental and emotional powers to a lower stage, then they assume the same class of sentiments, the same spiritual needs as designated the human mind in that lower normal state. Betimes the spiritual support that is expected represents the stage of ancestor worship, and the succouring agency is that of a father, or some predecessor of the same kin, desiring to uphold the house or family. The presiding spiritual influence may even be a nature-power, but more generally the reversionary guardian is the Virgin, a saint, or the divine spirit of some holy man, not necessarily dead, for modern spiritualism has taught us that the spirit of the living man may go forth to succour those needing their help.

Of visionaries like the stigmatics and Joan of Arc, we need not discourse, nor of the many appearances of the Virgin Mary and the saints, of the same character as those described by the maid of Lourdes, with their assumed spiritual missions, with these all are familiar. Even the caustic Loyola not only heard celestial voices, but saw the Virgin, who encouraged his projects. We may even pass over the narrative of Erhard's guardian or Napoleon's star-spirit of his destiny. Monitor guardian and portentous spirits have been a common appearance; the literature of the spiritual world in this respect is most voluminous, it even clings to the memories of many great names. Malebranche distinctly heard the voice of God speaking in him; Descartes averred he was followed by an invisible person;

Pope saw a monitory arm come out of a wall; Dr. Johnson heard his mother's injunctions; Goethe and Cromwell were informed of their great destinies by spiritual agencies. Of Tasso, Cellini, and other exalted visionaries, we have already spoken.

There are few asylums in which some simple patient is not more or less continuously receiving visits from some ministering spirit; they may behold them face to face, or they may only hear their voices, or even feel their presence as a power. Forbes Winslow relates the case of a lady who declared she distinctly recognized the voice of her mother, then in New Zealand, calling her by name, and begging her, in accents of the deepest distress, to come to her. In another instance a patient said, "I should have destroyed myself or have killed somebody else long ago, if the voice of my good angel had not begged and encouraged me to suffer." (*Obscure Diseas.* p. 488.)

Sometimes the monitor is a second self; thus Boismont describes a woman subject to fits as being always warned of their approach by seeing her apparition in the looking-glass. (*Halluci.* p. 175.) Bodin speaks of a person who had a spirit constantly attending him for thirty-seven years; it always appeared to him in the early morning. (*Ibid.* p. 72.) A lady every evening would sit at a window and gaze at a white post, which appeared to her the ghost of her husband. In another case a young lady fancied her lover was constantly by her side; she perceived him in the heavens, in the clouds. In a third instance, a lady nightly receives the visits of a white angel; thus erotic and guardian sentiments become blended, as they were in many monkish and mediæval legends.

The concept of tutelar powers may descend even to the presence of nature-powers. On the day which Saladin entered the holy city, the monks of Argenteuil saw the moon descend to the earth and again return to heaven. In several churches the crucifixed images of saints were

observed by the religious to shed tears of blood. (*Bois. Hallu.* p. 379.) Esquirol gives the case of a military officer who became deranged; in this state he prostrated himself to the earth and adored the sun, which he regarded as the father of nature. He looked upon a patient and the gardener as nereids, another was taken for Rhadamanthus, he himself was Minos. After he believed himself to be the great priest of the sun, the son of Zoroaster. (*Insanity*, p. 181.)

The wraith, swarth, or death-fetch, appears in the likeness of the person doomed, either to himself or to some friend, as in the case of Sir Richard Napier and Lady Diana Rich, in *Aubrey's Miscellanies;* and General Oglethorpe, as recorded by Boswell.

Lauret described an insane person who saw God. She knelt before the sun, and God spake to her. She saw Him in her dormitory and in her walks; in her sleep He appeared to her as a man, goodness and benevolence on His smiling face. (*Boismont*, p. 230.)

Betimes the spiritual manifestations take a prophetic character, and the mysticisms of the simple ecstatics are utilized by the crafty to sustain their religious pretensions. In the hollow in the ravine, adjacent to the church of La Salette, near Grenoble, on September 19th, 1846, two children watching the cows, a boy of eleven and a girl of fourteen, after the hour of noon, are said to have seen a brightness, and a lady in it who was sitting down with her head in her hands. She spake of sundry matters not usually talked about to the young, such as the Sabbath labour of the country folks, the swearing habit of the men, while only a few old women went to Mass, and of their going to the butcher's stalls in Lent, and that in consequence of their sins there would be no potatoes at Christmas. They were not to sow their corn, if they did it would be eaten by animals, that there would be a great famine, that young children would die in convulsions, that the nuts

would become bad and the grapes rot, but, if the men became converted, the rocks and stones would be changed into heaps of corn. Having thus instructed the young folks she glided away into the brightness once more. In addition to the above threats and prophecies the lady confided to the children a secret that was only to be presented to the Pope. This they are said to have retained in their memories for five years, and in 1851, in the presence of the Bishop of Grenoble, they wrote the momentous words on paper and this was forwarded to Rome. The water of the fountain, of course, became sacred, and fourteen crosses were erected along the line the lady traversed. Pilgrims came, sixty thousand in one day. The Bishop of Orleans called it the finger of God. The cures wrought by our Lady of Salette became numerous.

Sin and Pollution.—These in a spiritual sense are marked characteristics of the mental stage we are now considering; they denote disobedience to and violation of the commands of the Divine powers. In their lower manifestations, in barbarism, conscious dereliction of a Divine ordinance is not even necessary, the innocent but accidental violation of the tabu is subject to the same fetish vengeance as the defiance of a god's command. Something even of the same sentiment persists in the ideas of pollution, and the classical purifications, like accidental Lenten failures in Catholic times, were, though accidental, sins only to be relieved by rites and the mediation of the priest. Even the conditions that make failure possible may be induced by the moral results of the self-negation. Dr. Savage says:—"I have seen several examples in which young men and young women of highly sensitive, and sometimes of strong religious tendencies, have, like some of the saints of old, suppressed their passions, till they have seen visions appearing to them, perhaps as ghostly temptations to sin." (*Insanity*, p. 55.)

One of the highest expressions of sins and the effect of

the Divine indignation is the case of Simon Brown, a dissenting minister, recorded in the *Gentleman's Magazine* (1762). His delusion was that he had fallen under the sensible displeasure of God who had caused his rational soul gradually to perish, and left him only, in common with brutes, an animal life, that it was therefore profane in him to pray and incongruous to be present at the prayers of others. Importuned on one occasion to say grace, he expressed his submission to the Divine will by saying:—"Most merciful and Almighty God, let Thy spirit, which moved on the face of the waters when there was no light, descend upon me, that from this darkness there may rise up a man to praise Thee."

Many more, especially female patients, entertain the morbid fear that they have committed the unpardonable sin, and are hopelessly beyond the range of grace. Boismont describes a patient who reiterated the words: "I am the beast spoken of in the Apocalypse, God has abandoned me, Satan has entered into me." There was no evil in the world of which she was not the author; she was lost, she saw hell and the devils, and they menaced her. (*Halluci.* p. 478.) Hammond tells of a man who had committed thousands of heinous sins, that he was doomed to eternal punishment, and who thrust his hand in the anthracite fire as an act of atonement—in this exhibiting the same sentiment as Cranmer expressed at the stake.

The effect of this sentiment of sin on the minds of many in this and the lower state is to treat the Divine powers as they did the mortal judges, by buying permission to sin. To what extent this was carried during the Lenten fasts, and by the sale of indulgences, has been often described. A lower aspect presented the Deity as being satisfied by the sinner's submission to personal torture or the penalties of the Church, such as fasting, privations of various kinds, and certain disciplines. Like sentiments are often exhibited by madmen. Dr. Darwin relates the case of a

clergyman who, under the influence of morbid views of religious duty, was in the habit of bruising and wounding himself, with the object, he said, of mortifying the flesh. This devotee occupied much time at his prayers, and continued whole nights alone in the church. He died from the combined effects of self-inflicted injuries and continued abstinence from food, which he practised in obedience to his insane delusions. (*Obscure Diseases*, p. 148.)

The history of the Flagellants is a memorable example of the extent to which this fear of Divine vengeance may delude men, to faith in the healing virtues of self-torture. Madden describes these self-deluded victims of superstition mentally lower than the insane clergyman whom we just referred to. "Some," he says, "take this exercise from a true motive of piety, others practise it only to please their mistresses. They scourge themselves by rule and on a settled plan, with a whip of cords to which are attached at the ends little balls of wax with pieces of pointed glass stuck in it. The very rigid penitents practise many other mortifications. They go barefooted, they bind themselves with a piece of matting which covers their arms and a part of the body below the waist. Some carry crosses of an enormous weight, others bear naked swords stuck in the flesh of the back and the arms, which make large wounds when they make any movement unusually vehement." (*Phantasmata*, I. p. 394.)

In the same class we may rank the Convulsionaires, of whom it is said:—"Some women gave themselves severe blows with iron instruments, that sharp points were forced into the flesh; one hung herself by the heels with her head downwards for three-quarters of an hour, and so on." (*Hammond, Nerv. Derang.* p. 40.) The same writer in his work on insanity, gives the case of a young girl subjecting herself to ascetic mortifications and violent flagellations (p. 496). Jean de Rochet, a mad nun, declared she had

killed her body to raise her spirit to God. Catherine Ricci, of Florence, said she preserved on her body the marks of the scourging of our Lord. St. Limbania is said to have ploughed her flesh with a leaden comb.

Delusions of pollution—analogous in character to the religious delusions of clean and unclean, in food, in actions, in touching and being in the presence of things unclean prevailed largely among the old Jews, affects the principle of caste so extensively in India, and was so prominently present in the faith of Zoroaster—are betimes exhibited by the insane. Men who in their normal state had no such sentiments, when deranged may exhibit any form of the fear of pollution. Hammond refers to the case of a mining engineer who feared pollution in some inexplicable way if he sat down in chairs that others had used. He always carried a plate covered with cloth about with him, which he placed on the chair before he sat down. (*Insan.* p. 430.)

In another instance the fear of pollution began from morbidly dwelling on the account of a man having the small-pox through handling bank-notes which had been polluted. As she had, but a few minutes before, handled, in counting them, some bank-notes, the fear made a great impression on her. She washed her hands immediately, and then, not satisfied, again washed them, and then went to bed, not feeling quite comfortable. In the morning she was again particular in washing her hands, and then recollecting she had laid the notes upon some linen she proposed wearing that day, she changed her intention, sent the selected linen to the laundry, and got other from another drawer. She then put on a pair of gloves, removed the notes, and had the drawer cleaned with soap. Then she recollected that her hands, after she counted the notes on the previous day, must have come in contact with several things, more especially her dress, which was the same she now had on, so she washed her hands, changed her

dress, and then washed her hands again. Then a morbid sense of fear arose from everything she touched, she felt she should be defiled in some mysterious way; as to shaking hands without wearing gloves, it was impossible to her. She had given up reading because books and newspapers might be polluted, and she was in a continuous fear that she might be contaminated by something she had touched. (*Hammond, Insan.* p. 427.)

Human Sacrifice.—The impulse to win the favour of the gods by human sacrifice is very widely extended. It has its origin in the orgies of cannibalism; its lowest manifestation has been characteristic of most if not all races of men in a barbaric state. They would feed the gods as they feed their chiefs. When they become somewhat advanced the voracity of the sacrifice passes away, still the gods are refreshed by the odours of the burnt offerings. Then it is not the worthless, the slaves and the common people, that are sacrificed, but the selected, the devoted, the being without spot or blemish, the young child, the devoted youth, the delicate virgin, and, to mark the intensity of the sacrifice at last, the devotee must offer up his own child, or himself become the willing martyr. The first of these social phases of devoteeism marks an incipient civilization, the last is prominently expressed even in a more exalted state. It may take various forms, exhibit its spirit in various grades, now as the martyr rushing to the stake or the arena, now as the saintly soul that would win heaven by self-sacrifice on a leper isle.

That impulses which have had so important an influence on the minds of men through so many ages should have left some impressions in our common nature, which, like other impressions of past states of being, only need the necessary stimulation to revive in reversionary forms, might well have been anticipated. The first idea in the mother's heart when her reason is unhinged is thus to send her children to heaven, but we have several expositions of

the insane which present the impulse as obedient to the command of God.

M. Boismont narrates a remarkable instance. "A lady received a letter announcing that her daughter was very ill, on which she says, returning to my room preoccupied with the idea of my child's sufferings, I heard a heart-piercing voice pronounce these words, 'Lovest thou Me?' I felt no surprise, and instantly replied, 'Lord, thou knowest I have placed all my trust in Thee.' Then the voice added, 'Wilt thou yield her to Me?' A shudder of fear ran through me, but I replied, 'Thy holy will be done.'" (*Halluci.* p. 283.)

Hammond quotes several instances of the impulse to offer human sacrifices. As the case of a woman killing her three children because she wanted to send them to heaven. (*Insanity,* p. 465.) Another, where a woman killed her three children, literally hacking them to pieces; she thought she had made a great sacrifice, as she had read in a good book it was right to kill children. (*Ibid.* p. 466.)

Boismont records the case of a Prussian peasant who imagined in his mania, like Abraham, that he both saw and heard an angel who commanded him in the name of God to immolate his son on a funeral pile. He ordered the boy to carry the wood, then the father laid him on it, and instantly killed him. (*Halluci.* p. 523.) Another destroyed his child because he continually heard an angel commanding him to repeat the sacrifice of Abraham. (*Ibid.* p. 435.) In another instance a girl hears a voice commanding her to murder her child. (*Ibid.*)

CHAPTER IV.

Reversions to the Barbaric State.

In retracing the general stages of human evolution we recognize one considerably in advance of the savage, but far lower than the last we considered. Its necessary characteristics being the possession of flocks and herds or a rude form of culture. Its prominent social aptitudes being the family right to property, and the customary appropriation of the property of others not protected, and to attain such ends they use crafty schemes, and are given to constant lying. Corresponding with this concept of property is their concept of personal rights, crafty murders, and individual revenge also marking their relations with others. Their erotic tendencies denote cautious but systematic lewdness, partially betimes selective, but often mere promiscuity. Their supernal concepts are of a low kind, and, while admitting chieftain deities, they essentially depend on charm protectors, forms of fetish tabu and witchcraft.

That the leading heads of character which designate this class still find many individual responses in our higher civilization, only implies how common are moral degenerations. These are generally the first to give way in the individual, passion and personal aggrandizement are the most overpowering emotions, while moral concepts of

the rights and interests of others have little ruling force, hence it is that the great purpose of social institutions is to hold back the egotism of the individual. We may often trace in the actions of others the actual progress of these reversionary stages from the first reversion to indifference to others' rights, to the active desire to best them by craft, followed at last by open aggression, violence, and even murder, to be possessed of their belongings. In the same way we may follow the degenerations of the erotic feelings from loose conduct or ideas to loose acts craftily concealed, and so on to promiscuity, or worse, an utter disregard of the woman's personal individuality.

As it is with the normally degenerate, so also is it with the morbidly degenerate, and every phase of moral personal character may be noted in the degenerate states of idiocy, imbecility, mania, even more or less prevalent in dreams, in somnambulists, and even under mesmeric influence.

If we would form an estimate of the sentiments and habits that mark the barbaric phase of human evolution, we have it manifested in the historical records in chieftain Greece; its manifestations may be learnt in the Iliad, in the fate of Mycenæ, and the establishment of the Spartan and Athenian Commonwealths. So in like manner we find them recorded in the early contests and modes of life out of which were founded the great European States, we might even have seen them in full operation in New Zealand, at Hawaii, and at Tahiti in the early part of this century. Practically they are demonstrable now in many parts of Asia, among the Afghans, the Assam border tribes, and other yet unevolved races. It is demonstrable in the loose rights of property, the inadequate personal rights, the general savagery of their contests. We can observe it in the position of women and the nature of their erotic tendencies. Human life is of little value, and passion and power are the ruling forces. Nor are the religious sentiments more exalted than the social feelings.

They have passed beyond the lowest fetish influences, but augury and charms, vague dreads, and all the powers of evil present in the form of witchcraft and sorcery widely prevail. All the social elements live in a state of antagonism, the interest of the moment the only powerful influence, any form of concord is only obtained by submission to the most powerful pretensions, or at least temporary truces, to be violated so soon as one party deems it advantageous so to do. As it is with the social classes and groups, so is it with the relations of its individuals; force, craft, cunning, and malignity stand in place of law, and justice is a matter of favour, purchase, or arrangement. Without delicacy of feeling there is little delicacy of habits or expression, coarseness and sensuality are the leading features manifested even when it is prudent to be hospitable. Veracity is an almost unknown virtue, rarely upheld but when it is to the interest of the party to express it; honour as a high moral sentiment is wholly unknown, nor is a treaty or bargain secure save by clinching the opponent through the influence of his supernatural sentiments.

Hence the reversionary characteristics refer to property and person. They are seen in the wide extent of aggressive actions, in crafty robbery or open violence, in general eroticism, in lying, craft, and cruelty. The men may be seen in the nature of their gods, and the minds of the women in the sentiments of witchery and charms.

General reversions to the barbaric stage may even take place in childhood, and the marked degeneracy may become still more manifest as they continue to grow. Dr. Savage writes:—"Children of depraved tastes at school are sent away in consequence of immoral practices, or because of thieving or lying. At the age of puberty these become utterly unmanageable in consequence of the development of the sexual desires, making attempts of every description to gratify their lusts upon children or

women of any age. Some are horribly cruel and others demoniacally vindictive. I have known them torture lower animals, which were unable to defend themselves, with red hot irons, pins and needles, and the like, or by setting them on fire by means of turpentine or spirits. I was consulted once about a youth, who was constantly setting fire to the houses of those with whom he was placed. Another, a nervous lad, connected with a family of high mathematical ability, was for a time possessed with the idea that he was injured, and he would make accusations against people of robbing and ill-using him. Constantly accusations without the slightest truth in them are being made by morally insane patients." (*Insanity*, p. 274.)

Of the general low moral character as expressed by fraud, lying, and theft, we spoke most fully in considering the reversionary forms in the uncivilized stage; we will now only quote an instance whose like may be matched by incidents told by many voyagers among barbarous tribes. Hammond says of a patient, as he saw anything he endeavoured to steal it. He would crawl behind a person and try to seize with his teeth the hat he held in his hands. At other times he would drag himself along the floor on his hands and knees, in order to snatch something he felt impelled to steal. It was not necessary for the object to possess any value; a stone, a blade of straw, a piece of paper, were fully as much objects of impulse as valuable articles. (*Hammond, Insan.* p. 522.)

Of the nature of the general barbaric type as manifested by reversion in a lady, Dr. Clouston gives a distinct instance. "A lady of good morals, good education, refined disposition, and lady-like tastes, had several attacks of mental disease, and instead of being a pleasant-looking woman her features acquired a coarse look. She ate twice as much, and lost the delicate ways of a lady. She lied, she stole, whored, and took pleasure in hurting and annoying every person she came across. She was cruel to

animals. She was such a blister and firebrand that she could live in no private house with others, and in the asylum she could set up ten patients in about as many minutes. She did not court a fight, but never declined one with any person whom she had roused to fury, enjoying it too. All this came on at intervals, passing off and leaving the same refined, and moral, and pleasant lady she had ever been." (*Clinical Lect.* p. 157.)

We have in this, as in all other cases, to remember that the co-ordinate individual is never responsible for his acts or impulses in a discordinate state. When the disorganization discontinues the individual becomes normal in general; no memory of the feelings, however abnormal, remain; all they know is that they are powerless to restrain them. Hammond's patient said he acted from an irresistible impulse, not upon the belief that he was doing right. "I knew perfectly well," he said, "I was doing wrong, and I might have refrained if I had pleased. I did thus and so because I loved to do it, it gave me an indescribable pleasure to do wrong." (*Insanity*, p. 377.)

Something of the same barbaric form of thought may ever be observed in the self-willed child's mind. It knows it is doing wrong, nevertheless it persists until it is withheld by fear or force. The reasoning is exactly of the same character as that of the insane patient and demonstrates how much in accord are the emotional states of the barbarian, the child, and the morally insane.

Kerlin in the *Mind Unveiled*, gives the case of an idiot girl, which fully characterizes the mental state of the barbaric stage. "She would throw herself on the floor, stamping with rage, and turning blue in the face; at other times she would bite and scratch herself, and once pinched her finger severely in the door to excite a relenting spirit in the person who was offended with her. After, with seeming contrition and in the act of kissing, she bit the lady's cheek severely. Her mischief knew no bounds; by

a sly tip under the elbow of a stranger at tea, the cup was dashed from the lips, and its contents poured on the satin and linen. In the flues when cleared were found the rulers, scissors, and collars she had secreted. Her amusements were distortions of those of simple childhood" (p. 15).

A writer in the *Journal of Mental Science* says:—"I have known patients alternately spit, coax, bite, caress, beat, kiss, villify, and praise those near them; to utter one moment sentiments that would do honour to the most orthodox of divines, and afterwards use language only expected to proceed from the mouths of the most depraved of human beings." (XI. p. 533.)

Cannibalism as a habit prevails among the lowest class of savages, but its most marked features as a passion and not a mere food impulse obtains the greatest manifestation among men in the barbaric state. This occasionally becomes a special characteristic of the insane, and several instances in which it has been developed as a craving appetite, a morbid reversionary passion, are quoted in the *Medical Critic*. In one a woman killed her child, cooked it with greens, ate part, and put the rest by as a meal for her husband. M. Perry described a polyphage who was in the habit of going into the slaughter-houses and waste places to dispute with dogs and wolves the most horrible carrion. At Versailles, where he was taken, the nurses detected him drinking the blood of the patients that had been bled, and in the dead-house sucking, like a modern vampire, that of the corpses. (II. p. 714.)

Antoine Leger, a vine-dresser, fled into a wood and established himself in a cavern, living on roots, wheat, and berries, stealing food from the villagers, catching at times a rabbit, which he killed and devoured raw at one sitting. One day, on the edge of the wood, he saw a little girl, he threw his handkerchief over her neck and bore her on his back to his den, then he opened her body, and,

seeing her blood flowing, sucked it, then devouring her body. When taken, he said, "I did this in order to get blood; I wished to drink blood; I was no longer myself." (II. p. 715.)

Maria de las Dolores, in the mountains of Segovia, killed her father, opened his chest with a cutlass, dragged out the still palpitating heart, and, when half roasted, began to devour it. Her insane cries brought out the shepherds, and by the side of the corpse they beheld her, like a fury, with gory mouth and staring eyes, holding in one hand a piece of her father's flesh; she then set fire to her clothes, and tore her bosom with her hands. (*Ibid.*)

In another case, Jared and Clarissa Comstock were murdered by their son, at Hamilton, New York State, in 1858. On entering the house the neighbours found the murderer sleeping on the sofa between his two victims; their two hearts had been torn out, and were in the oven gnawed and half cooked. (*Ibid.* II. p. 716.)

The barbaric sexual impulses may be described as a stage above the any individual of the opposite sex; it may be termed the promiscuous selective; in the lower social forms it is manifest in polygamy, polyandry, all mixed associations, lending wives, cicisbeos being tolerated, &c.

Worcester describes the case of a gentleman who, even in the presence of his wife, solicited his sister-in-law persistently, who would illusively become enamoured even of old women, conceiving them as beautiful (p. 231). Barnett, who attempted to shoot Miss Kelly in Drury Lane Theatre, for which he was confined in Bedlam, afterwards changed. He lost the impulse that made him attempt murder, and became a general lover, sending amatory poems to every young lady whose name and residence he could discover. (*Hammond*, p. 406.)

It is well known that the fact of the sexual orgasms occurring to nuns during sleep in the Middle Ages, led

them to the belief that they had been visited in the night by heavenly beings, with whom they had sexual relations, and for whom they ever afterwards entertained the most mystical as well as physical love. (*Ibid.* p. 406.) A woman imagined that she was pregnant by a preacher whom she named her spiritual essence, who had seduced her; she talked to her husband of the circumstances as if they had no emotional effect on her moral power. (*Ibid.* p. 339.) Jansen describes a clergyman who almost every night had a woman throw herself on his breast and embrace him. He endeavoured to cry, but she stifled his voice. He said, "when awake, I see her with my own eyes." (*Ibid.* p. 252.) An hysteria accused the vicar of the parish of having committed a rape upon her. At the trial it was proved that she was a virgin. (*Ibid.* p. 496.)

Hammond gives the case of a girl who not only charged two young men with violating her person, but of having introduced into her body stones and pieces of wood and iron. They were imprisoned for a year before the whole falsity of her assertions were explained. (*Ibid.* p. 496.) Dr. Clouston gives the case of a woman of thirty-six who, blending her erotic ideas with her concepts of sin, said she had been the cause of her brother-in-law's death through having had improper thoughts and conduct towards him during life. (*Clinical Lectures,* p. 86.)

One of the effects of the low erotic sentiments which prevail in the barbaric state, and which equally represents the individual barbarian in more elevated communes, is the proneness of forcing an individual of the opposite sex to gratify their desires. A rape unselective is the characteristic of the savage, so rape selective denotes the barbaric impulse. Among all people in this stage of evolvement the fear of the attempt prevails, and to prevent it the sexes are separated into different morangs; even the married women are guarded. Colonel Dodge, in his *Wild West,* describes the prudent women among the North American

Indians sleeping in their skin wigwams as uniformly protecting their persons by winding many coils of rope round their bodies and thighs, and it is singular to observe a like means of security being devised by an erotic. Hammond writes:—"A young woman always fearing to be violated, not only went to bed in her day-clothes, but fastened her legs together with straps and napkins. Another had a tin case made to fit over her, and fastened with a lock and key when she went to bed" (p. 350).

Dr. Clouston gives the case of a prudent and discreet man who, at the age of forty-five, lost his wife, whom he had sleeplessly nursed, and then within a week he proposed marriage to another lady. Subsequently, much excited, he took two girls out of a brothel, got lodgings for them, tried to reform them, spent money on them, prayed with them, slept with one, saying she would be his wife. He went one night to a brothel to convert its inmates with a Bible in his hand, in an hour he succumbed, and, as he had no money, left his Bible in pledge. (*Clinical Lectures*, p. 150.)

Spiritual Natures and Powers.—The age we are now considering is essentially the mythic age. In it the god-natures are evolved into consistency, and the relations of the spiritual and human natures become defined. It may be as divine beings, it may be as canonized saints, but ever human nature advances to the attributes of deity, and obtains a status in the heavens. The powers above, as well as the powers from below, make of the earth a vantage ground, and humanity, in its many aspirations and failings, is ever brought into relations with the various supernal forces. Thus a vast field is presented for the development of myths, and phases of being mingling the attributes of the higher and lower spiritual natures with those of humanity, become endless. Generally they are represented under the leading sentiments that mark this age—erotic propensities and the mysteries of supernaturalism. Gods

and devils alike revel in human sensuality, and prodigies, and signs, and wonders abound. Every man and woman has some divine nature on whose protection it leans, and to which it clings in danger or distress. They are influenced by spells and charms and incantations. Often the god-saint or angel visits, maybe takes up its abode, in its votary, while the ministers of evil enter into their bodies, make associations with them, and cajoling and deceiving them for a time, in the end hurl them to destruction. Low ideas of the moral natures of the gods mark even the best concepts of humanity in this phase, while all the lying, immoral, dishonourable proclivities of the times are represented in the divine and human relations of its lowest members. Credulity, possession, witchcraft and priestly domination, charms, relics, augury and prophecy demonstrate the low supernal influences that dominate in the minds of men. It is to such sentiments and such feelings the minds of men revert even from the higher phases of humanity when degeneration or morbid influences reduce the higher co-ordinations.

We have already recorded several instances in which the insane have interviews with gods and angels, hold converse with saints even under erotic influences. Esquirol records many instances in which the insane are as familiar with gods and devils as at any barbaric stage were the common people, not to mention the priests and those interested in spiritual agencies, who had other motives to strengthen their expressions of faith.

A woman, forsaken by her lover, makes vows of chastity, and devotes herself to Jesus Christ. After failing in her promise, remorse seizes upon her, and she regards herself as condemned, given over to the devil, and suffering the torments of hell. Six years were thus passed in delirium and torments. One day while on her knees, reading the *Imitation of Jesus*, a young man enters her chamber, says that he is Jesus Christ, that he has come to console her, and

that if she will but trust in him she will have no longer occasion to fear the devil. She yields. Then for the second time she deems she is under the power of the devil, and experiences all the torments of hell and despair. She says the devil has extended a cord from her sterum to the pubes which prevents her standing up. He is in her body, burning and pinching it. She is surrounded by flames. She curses the devil who burns and tortures her, and God who has cast her into hell. (*Insanity*, p. 239.)

A woman, finding her lover was deceiving her, marries another; the discarded one threatens her, and dooms her to the devil. Then she thinks she is bewitched, that the influence of the curse is upon her. She prays, performs devotions of nine days' duration, and goes on pilgrimages. She wears, to counteract the spell, a slate presented by the priest, but all in vain, the devil and his torments do not leave her. She says, "The devil has taken from me my body, I have no longer a human shape. I burn, sulphur exhales with my breath; I neither eat nor drink, for the devil has no need of either food or drink. I feel nothing, and if placed in a fire should not burn. Look at this beautiful figure, is it that of a woman or devil?" (*Ibid.* p. 240.)

A woman, distressed by debt, walking in her garden, conceives that the devil appears to her, who proposes that she shall sign a paper with blood drawn from her little finger, and promises her the money she owes. After a time she writes out her renunciation and sacrifices to the devil. Then the earth trembles beneath her, and the evil spirit disappears, carrying away her real body and leaving only her phantom. Then the devil incites her to crimes. She says she is devoured by the fires of hell, that she has no blood, and is absolutely insensible. "I shall remain on the earth," she says, "until wise men have discovered the means of obliging the devil to bring back to the earth my natural body." (*Ibid.* p. 241.)

Another woman says, "For millions of years I have been

the wife of the devil, he lodges with me, and is the father of my children. My body is a sack made of the skin of the devil, and is full of toads, serpents, and other unclean beasts which spring from devils. The devil is continually telling me to slay and strangle my children. In return, I have required the devil to bring low Him that sits on high, to slay God and the Virgin." (*Ibid.* p. 242.)

A German patient at Leipzig believed himself possessed of two spirits who had their abode in his head, and controlled his thoughts, influencing his will. He heard their voices sometimes in his head, at others they came from his neck, chest, or abdomen. One was the spirit of his father, the other a man whom he named; they suggested bad and shameful thoughts to his mind. (*Jour. Ment. Sci.* XX. p. 139.)

Betimes the human deviations are the result of spells or enchantment. Esquirol says we have at Charenton a young man from the mountains of Limousin, of a bilious, sanguine temperament, slender and emaciated, with black hair and eyes and a pale complexion, who believes he has a *dracq* or destiny in his abdomen. When questioned, he says, "It is a destiny that has been imposed upon me, and everything has been done to deliver me from it without success." (*Insanity*, p. 251.)

We may compare these insane illusions with those of the days when witchcraft was prominently accepted as the natural state of mortality, and these sentiments were matters of every day application. Jeanne Harvilliers, a native of Verberie, confessed that at her birth her mother had offered her to Satan, and that since the age of twelve the devil, in the form of a great black man, clothed in black, booted and spurred, having an invisible horse at the door, had visited her constantly. It appeared that thirty years before she had been whipped for sorcery, and her mother burned for a witch. She admitted having invoked Satan to remove a spell. She owned to having used ointments that the devil

gave her. Her doom was like her mother's, to be burnt alive. (*Boismont, Halluci.* p. 130.)

In the convent of the Ursulines, at Aix, in 1609, one of the nuns said she was possessed by devils, and that she had been seduced by a sorcerer before she was ten years of age. Another nun declared she was possessed by three devils. A priest, Ganfride, was accused of the sorcery which he denied at first, but under the terror of the charge he became insane, and confessed all and more; he had worshipped the devil for fourteen years, who caused every woman upon whom he breathed to become enamoured of him, that more than a thousand women had been seduced by him. He was burned. (*Hammond, Insanity,* p. 504.) One nun, under the delirium of the charge, confessed to numerous murders, strangling children, ravaging graves, feeding on human flesh, orgies of superhuman atrocity, unheard-of sacrileges and poisonings. She had a charm composed of sacramental body and blood, pounded flesh of the goat, human bones, the skulls of infants, hair, nails, flesh, liver, and spleen of a sorcerer. (*Ibid.* p. 505.)

In 1630, Alexander Hamilton confessed to having met the devil in the likeness of a black man, riding on a black horse. He renounced his baptism, and engaged to become the devil's servant on receipt of four shillings sterling. The devil instructed him how to be revenged on his enemies, and further gave him a spell by which he killed the Lady Ormestone and her daughter in revenge of the ladies having refused him the loan of a mare, and having called him nicknames; lastly, he declared he had had many meetings with the devil. (*Jour. Ment. Sci.* XXVIII. p. 6.)

The higher form of fetishism expressed in the supernatural powers of witches and medicine men, though a vulgar superstition, even to the lower civilized stage, is essentially the religion of the barbaric era. Its phases, as presented in the hallucinations of the insane, mark every form in which witchcraft has been presented, from the

accidental violation of some form of tabu, the secret machinations by spells of evil-minded women and men, to the inter-relations in all forms of good and evil spirit-beings with humanity. Men and women are transformed, possessed, degraded, punished, injured, or benefited in every possible way by human and spiritual agency, through charms, spells, fetish objects, compounds of various kinds, and the direct attacks of malignant beings. Some are the mere vulgar actions of the common witchcraft, others take the higher forms of demoniacal malice or the spiritual transformations of Divine powers. The expression of these various sentiments is accompanied with all kinds of barbaric habits, erotism, shamelessness, filthy conduct, craft, and the exhibition of the lowest moral feelings. To show these general attributes we will quote several cases.

A patient, Mademoiselle O——, fancied at first that she heard voices abusing her, they commanded her to swallow all that came before her. Obedient to this order, she introduced successively into her stomach, earrings, pins, and mittens, and she would have done the same with a box of dominoes had her request for them not been refused. Then the devils loaded her with ill-treatment, and spoke obscenely to her. By a sudden and incomprehensible transition these foolish ideas disappeared, and a sensible and instructive conversation made the change inexplicable. There were days when she was convinced that she wasted and shrunk perceptibly to the eye, although her corpulence was enormous. Once she begged a lady to put her in her umbrella or bonnet in order to carry her away easily; at other times she believed she was metamorphosed into a cat or dog, and would counterfeit the cries of those animals. Sometimes she saw devils, and heard voices; at others she saw figures of friends who came to visit her, or she was served with poisoned food, or her room was filled with infected smells, or someone made a great noise to prevent her sleeping. In her excesses she undressed

herself to show she was an animal. (*Medical Critic*, II. p. 294.)

One patient avers that S. C., that is herself, was murdered by her, that she extracted her victim's tongue, and now uses it. She is perfectly sincere in her delusion and unvarying. As she is totally uneducated and a vagrant, she cannot be acquainted with the metaphysical phenomena which her case illustrates. Another, a man of excellent talents, has a suspicion that his head is growing less, and that he is persecuted by myriads of spirits that people space. An old lady, an inmate, he says is a witch, and he conceives that some of his familiar agencies are at the same moment men and dogs. He conceives that he lived a thousand years ago, and met the individual with whom he may be conversing among the pyramids when fresh from the hands of the architect. (*Amer. Jour. of Ins.* III. pp. 361, 362.)

A lunatic, in the asylum at Blois, attributed influences fatal to his health to the colour blue, and to neutralize these influences, whenever he wore a garment of that colour, he placed in his button-hole a morsel of green cloth or the leaf of a tree; green being, as he thought, beneficial. Certain figures, as the figure 7, for example, were subject to malignant influences, hence he refused to work on the seventh of the month; he said he was confined by the influence of a family of seven persons. An inmate of St. Gemmes, a priest, constantly attributed certain influences on the weather (as the rain-doctors of the barbaric races) to the effects of his prayers. Certain gestures of this or that person made him sneeze or blow his nose. When the sky was covered with clouds during the singing of the *Domini salorem fac imperatorem* in the chapel, he attributed it to this chant. Another, also a priest, thought all the ills of life were produced by eating apples; he wanted the bishops to issue a proclamation ordering all apple-trees to be destroyed. A patient believed that if someone

accosted him on the left side instead of the right, some evil would happen to him, and if he were so accosted he hastened to neutralize the injury by a countermarch. (*Med. Critic*, II. pp. 172-173.)

Dr. Macario points to a host of hallucinations bearing on this subject. The devil presents himself under the shape of an animal, sometimes half-man and half-dog, or half-toad, or as a flash of lightning. He enters the body, speaks through the mouth, takes possession of the faculties, pricks, burns, tears out the heart, the brain, the entrails, and torments in a thousand ways. At other times he holds obscene discourse. Some are lifted into the air and carried off to the infernal regions, where they look upon the tortures of the damned. Others fancy themselves transformed into animals, trees, or fruits, or reduced to ashes, and then, like another phœnix brought to life and regenerated. Some are surrounded with hideous reptiles or corpses. Some fancy they have sold their souls to the devil and signed the contract in blood; they believe themselves lost for ever. There are others who are never to die; at the end of the world they will be alone upon the earth. Some are more fortunate, the devil protects them, teaches them the secret of making gold, prophecies to them future events, unveils for them the mysteries of hell, and grants them the power of working miracles; at their bidding lightnings flash, thunders roll, the earth yawns, and the dead come to life. (*Ibid.* II. p. 538.)

CHAPTER V.

Reversions to the State of Savages.

These we may consider as referring to the cases in which human beings—even men and women, at least in age and maturity—evince no higher general characteristics than mark the childhood of savages. As seen in habits of motion, in helplessness, in parrot-like words, in undeveloped emotions of kindred and feelings, delight in noise, bright objects, and habits of rolling, kicking, and monotonous iterations and movements. The reversions to the full savage type are marked by the expression of unconditioned fear, both of the known and the unknown. Their emotional status denotes food voracity, maybe cannibalism. Uncleanness, shamelessness, erotic promiscuity, savage slaughter and revenge of an indiscriminating character; low social ties and sentiments, interjectional monotonous repetitions, ghost personations of all things, and the conception of the universal presence of vague fetish-powers.

The Child Savage.—We have already had occasion to show the characteristics of the profound idiot; his low organization, often having deficient members and faculties, his low sensibility, inco-ordinate volitional powers, even the almost total absence of the common animal personal instincts—a hopeless, helpless entity, thoughtless, almost motionless, and more or less deficient in special sense. Some are profound idiots from birth, others morbidly

degenerate to a like state of helpless imbecility. It has been attempted to classify idiots, but they graduate to imbecility through every mental and physical faculty. Here one power fails, there another; one is both physically and morally incapable, another, amid the ruin of all that denote human faculties, has preserved one or more special powers which radiate brightly in the general amorphic mental gloom. The variety of the degradations are best denoted by presenting individual cases. We have described the lowest class, men-babies (I. p. 297).

The first case we shall quote is that of a male, six years old. He has slight powers of vision, stares fixedly, he hears but does not listen, the sense of smell exists, his taste is very slight, and he can hardly distinguish between nice and nasty things. The saliva runs from the mouth, which is usually open. Voice he has none, not even the power of humming; he rarely cries or shrieks. He cannot stand nor sit upright; his usual posture is on the back, with the legs drawn up. He barely recognizes his mother; has no intelligence. Emotions barely exist. He does not masticate. (*Jour. Ment. Sci.* VII. p. 245.)

J. C., a boy of eleven. He looks out of the corners of his eyes; he hears and can be made to listen, and notices music. He has no power of enunciation, but howls, cries, and laughs. Cannot hum a tune. Little power of attention or discriminating between persons and things—little mental perception and memory. Food must be placed on the back of the tongue. He has the habits of a child a few months old. (*Ibid.* VII. p. 247.)

Roderick, aged nineteen. His expression Calmuckian, repulsive. Nose rudimentary. Sits constantly on a block of wood, gazing at the fire, or where the fire usually is. Would not move if starving, nor if the cottage were in flames. Does not know night from day; knows nothing—can do nothing; easily frightened; dirty in his habits; he cannot articulate. (*Ibid.* VII. p. 62.)

Charles Emile, at Bicetre, aged fifteen. Almost in a state of complete idiocy; voracious, indiscriminate, gluttonous, appetite hideously erotic. He was wholly an animal, without attachment or courage, no tact, intelligence, power of dissimulation, or sense of propriety, and awkward to excess. His moral sentiments null, except love of approbation; his eyes never fixed, they seemed to act without his will. Taste depraved; touch obtuse. He recognized sounds, but was not attracted by any, and he scarcely seemed to possess the power of smell. Devouring everything, however disgusting; brutally sensual and passionate, breaking, tearing, and burning everything he could lay his hand upon, and if prevented, pinching, biting, and tearing himself till he was covered with blood. He endeavoured to push out the eyes of his brothers and sisters and playfellows. He walked imperfectly; could neither run, leap, nor exert the act of throwing. All the faculties of perception are in a rudimentary state; it is incredibly difficult to draw him out of his individuality, to place him before exterior objects, and to make him take any notice of them. (*American Jour. of Insan.* I. p. 336.)

No matter how old the idiot is he always exhibits the abortion of faculties of ordinary human beings as manifested in their early years. Some never advance beyond the status of men-babies, others are as children of one or two years, and so on; any or several faculties, in some all, may be more or less dormant or degraded.

We will now quote cases illustrating the various undeveloped forms of persistent childhood.

"Idiot; he lived to thirty-five. Blind from birth, of low intelligence, unable to dress himself, or do anything beyond carrying his food from his plate to his mouth, and repeating, parrot-like, a few words and phrases." (*Ireland*, p. 72.) Bucknill and Tuke give the case of a woman who, "if she were not fed like an infant, would die of starvation; she eats ravenously, and would choke herself if her food were

not carefully minced. She never laughs or weeps, or indicates any want or any annoyance. She knows none of the attendants or patients by names. On her blank physiognomy there are no traces of passion. She says she was never married, though she had five children; remembers her maiden name, though she appears to have forgotten her married name. When told to move, she progresses with a short, quick step, like a young child" (p. 768).

Ireland gives the case of an imbecile who possessed memory sufficient to acquire language, but was deficient in the capacity of combining, reflecting, or comparing. Tested in a Scotch law court for competency, he utterly failed in reckoning the disposal of a few shillings, though he stood the test of language. (*Ireland*, p. 278.) Antonia Grandoni, a microcephalic. Every attempt to instruct her was without success; she continued to manifest a child-like character. (*Ireland*, p. 106.) Motley, lived to fifty, apathetic; spoke only a few words of one syllable; never asked for food, or seemed put out when it was not brought. (*Ireland*, p. 111.) Helene Becker only spake one word, but used two sounds, a guttural and a nasal, as signs of pleasure; impossible to influence her; made no difference between her family and strangers. Never showed any desire for food when placed before her; never fed herself. Unquiet, never executed any regulated movements. (*Ireland*, p. 113.)

A boy of four, by a fall, became idiotic, and when a young man had no more intelligence than a child of eight. (*Ireland*, p. 213.) In a case of dementia from small-pox, "she wished to have everything she saw; appetite voracious; she ate anything which came in her way, fat or lean, raw or cooked; habits dirty." (*Ireland*, p. 216.) Microcephalic idiots are quarrelsome and unmanageable, biting and kicking when angry. (*Ireland*, p. 93.) The Aztecs shown a few months since were fond of beating a drum and jingling a tambourine; they seemed incapable of forming

a definite proposition; attracted by bright objects and toys; they had no sense or instinct of shame; stupidly docile. (*Ireland*, p. 97.)

The case of a woman of forty is given in *Brain* that illustrates an intellect and character above that of the ordinary child savage, yet not up to the standard of the savage man. "Her attitude is peculiar; she perches herself on the edge of a chair in a simian posture, the hands being invariably crossed on the breast and constantly intertwining in a nerveless, purposeless way, to a rhythmical swaying of the body. Her back is bent, but her head appears to be set at right angles to her body. All her motions are clumsy, and express a want of co-ordinating power. She has never been known to express any sexual feeling. Her intelligence is low, her vocabulary extremely limited. She is perfectly helpless in regard to dressing herself, though she can use a spoon. Her language is confined to interjections, her whole stock being half a dozen. Attention is hardly present, and then but momentary. There appears no imitative faculty. She has no fund of amusements; a doll will lay in her lap unheeded. Her memory is rudimentary. Her fondness for music remarkable, and she can appreciate musical rhythm. Her delight is to hear the band play. Identity is present, she knows her own ward and bed. She is timid, exhibits no affection, her only preference was to little children, to them she has given portions of bread and butter. Curiosity was but faintly developed. She is passionate and revengeful. Pleasure developed, is manifested by smiles; mortification and jealousy, by being noisy. Sympathy is beyond her ken. Her mental capacity might be rudely gauged at something below that of a fairly-intelligent household dog." (III. p. 247.)

Return to Savagery.—Professor Bonatern represents the savage of Aveyron as unused to our food, and selecting his aliments by the smell, like the savages of Ireland, Hanover

and Liege. Lying flat on the ground and immersing his chin in the water to drink, as also did the girl of Chalons in champagne, and, like her, tearing all sorts of garments, and trying constantly to escape; walking on all fours, like the boys of Ireland, Hesse and Hamburg; giving few marks of intelligence, like the Lithuanian child; having no articulate language, and even appearing devoid of the natural faculty of speech, like the savages of Ireland, Lithuania, and Hanover. Kind, complaisant, and pleased at receiving caresses, like the girl of Overyssel. (*E. Seguin, Idiocy,* p. 18.) All these savage children found wild amid the higher civilization are presumed to have been imbeciles neglected, or who from instinct have escaped to the woods. The *American Journal of Insanity* has the case of one who often wandered into the woods and was not seen for weeks; he lived on wild fruits and animals, and by milking the cows and robbing hens' nests. (XXIII. p. 553.)

Dr. Cartwright describes a disease common formerly among the negroes in the Southern States. They break, waste, and destroy everything they handle, abuse horses and cattle, tear, burn, and rend their own clothing, and paying no attention to the rights of others, steal to replace what they have destroyed. They raise disturbances with their overseers and among their fellow servants without cause or motive, and seem to be insensible to pain when subjected to punishment. When driven to labour by the compulsive power of the white man, he performs the task assigned to him in a headlong, careless manner, treading down with his feet or cutting with his hoe the plants he is put to cultivate, breaking the tools he works with, and spoiling everything he touches by careless handling. It is known as Dysæthesia. (*Jour. Ment. Sci.* IV. p. 107.)

Dr. Clouston observes of some cases of delusion:—"I am reminded of the resistance of a wild animal or the behaviour of certain savages when first caught. Fear, the

instinct of self-preservation. An evolutionist would have no difficulty in seeing in these phenomena a reversion to primitive instincts. I have often seen as clinical accompaniments to such cases, a hot feeling, perspiring skin, and a particularly offensive, strongly-smelling perspiration." (*Clinical Lect.* p. 99.)

G. F. Blandford describes a lively girl who from being quick and affectionate as a child, became rude, passionate, vulgar, and unmanageable; she became morbid in appetite, would sleep on the ground rather than in bed, was cruel to her sisters, could not apply to anything, would eat her fæces and drink her urine. (*Insanity*, p. 340.) Bucknill and Tuke describe another girl, who was foolish, irritable, frequently wept and laughed without cause, exceedingly mischievous, destroying windows and clothing without apparent motive; inattentive to the calls of nature; saliva running from the mouth. The discordinate state induced through a fever. (*Psy. Med.* p. 781.)

The *American Journal of Insanity* gives the case of W. R., who had been eight times in the House of Correction; he tortured animals, picked out the eyes of a kitten with a fork, lied and stole; he was expelled from school as being too bad to be kept; drunken and debauched; attempted or pretended to commit suicide; utterly false and untrustworthy. In the asylum he delighted in torturing the patients, indelicate in the presence of females; attempted rape on his mother and sister; yet intelligent, cunning, vain, and devout. (XXVII. p. 458.) The same publication gives the case of a lady whose impulse was to bite her own children. She said she felt she must bite their noses off, and snapped her teeth for hours together. Another, a woman of forty years of age, who, in her excitement, said she felt as if it would delight her to seize somebody, throw them down, and trample upon them till they were dead. (*Ibid.* VI. p. 297.)

Uncleanness — Shamelessness.—The habits of acute maniacs as regards the care of their persons and attention to

the ordinary rules of modesty and decency, are often radically changed. In addition to the use of profane and obscene language, there is a proneness to indulge in indecent conduct and filthiness. Exposing the person, lascivious gestures, urinating and defecating in the presence of others with no sense of shame. (*Hammond*, p. 549.)

Shamelessness is a common attribute in religious insanity. Thus St. Francis stripped himself naked in public; the same is said of Jeremiah. When the spirit of God came upon Saul at Naioth, he stripped off his clothes and prophesied before Samuel, and lay down naked all that day and all that night. Like conditions are presented by the naked fakirs and rishis in India, and the naked dervishes in Persia and the East generally. The most chaste and refined mind when deranged loses all sense of modesty. Hammond quotes several such cases of young women stripping off all their clothes, tearing them up, throwing them away, preferring to be quite naked. Some of these incidents are due to erotic tendencies, but others are devoid of that character, and only express the savage sense of freedom in bodily movements or indifference to being seen naked, as is common with rude savages. (*Hammond*, pp. 487-489.) You "think that bad," said a young girl to her mother, who was shocked at some obscene words she had spoken; "well, what do you think of this?" and then she gave utterance to a series of ideas so obscene and in language so vile that her mother rushed in despair and horror from the room. Then she said, "I thought that would astonish the old lady, but that is nothing to what I could do if I really tried. Now, bring me my Bible, for I want to read a chapter and say my prayers." (*Hammond*, p. 490.)

Worcester writes:—It is quite common to find insane persons stripping stark naked, and in this condition they will run out of the house regardless of the weather, and the restraining influences of decency seem totally absent

from their minds. Imbeciles, idiots, and the chronic insane will strip themselves, destroy their clothing, smash windows, and befoul their bedrooms from mere wantonness, or, as a young woman told me, because she could not help it. (*Insanity*, p. 63.)

Esquirol records the melancholy history of Theroigne de Mericour. In the early days of the French Revolution she took a prominent part in its mad fury in arousing the people. She formed an army of women, herself handling a pike and even cutting off the head of a prisoner in the massacres of September, 1792. When the Directory was established, she lost her reason, and was sent to the Salpétrière. There she was unwilling to wear clothing, even a chemise. Every day, both morning and evening, and sometimes in the day, she poured buckets of water over her straw bed, and amused herself with walking with naked feet over the stone-flagged cell, inundated with water. When it froze, and she had no water, she was accustomed to break the ice, and take the water thus obtained and wet her body, particularly her feet. Most frequently she went on all fours, and extended herself upon the ground. With a fixed eye, she collected all the offal she could find upon the pavement and ate it. She devoured straw, feathers, dried leaves, and morsels of meat lying in the dirt. Every sentiment of shame was extinct, she was habitually naked in the presence of men without blushing. She died at fifty-seven, in 1817. (*Insanity*, p. 219.)

The same symptoms are present in puerpereal insanity. Hammond writes that "the repeated use of indecent words is a symptom thereof. In mania, modest women use words which in health are never permitted to issue from their lips; in puerpereal insanity this is common, and they endeavour to strip off their clothing." (*Hammond*, pp. 643, 644.)

Indiscriminate slaughter.—Revenge and torture are the characteristic attributes of the lower savages, and many in

various forms of mental derangement. Dr. Yellowlees observes of a patient in the Morningside Asylum at Edinburgh, that "the man's whole life was a study how to murder, and he was constantly gloating over the thought and of a cruel and bloody revenge. Besides attempting to kill the doctors, and attendants, and others, he used to entice mice into his room by leaving some of his food near a hole in the corner. He prevented their escape by closing the hole, killed them by tearing them into quarters with his fingers, and had the pieces arranged in a row in the morning to show the attendants how he would treat his enemies if he could. He lived for many years, his life marked by gradual mental deterioration, with a persistent and unconquerable desire for revenge and blood." (*Bucknill and Tuke*, p. 264.)

Dumollard was a vulgar peasant, ignorant and poor; the moral sense never developed, a savage pure and simple. He had a *penchant* for murdering servant girls whom he pretended to hire, then conducted to unfrequented places, and murdered. Six thus were known to have disappeared, nine others barely escaped; how many others he had murdered none could tell, but on searching his premises 1250 articles of women's apparel were found, only fifty of which could be identified. (*Hammond*, p. 375.)

Jesse Pomeroy, the boy torturer, was fourteen years of age. His victims were little children, some were cut with knives in various parts of their bodies, they were tied to beams, and beaten with ropes and sticks until their bones were broken and their teeth knocked out. Some had pins and needles run into the sensitive parts of their bodies, on which salt water was poured. Confined for a time, he was afterwards let out, when he murdered a boy, for which he was subsequently confined for life. (*Hammond*, p. 375.)

One who from his very cradle had mixed with the gentle and refined. At his own earnest request the boy was per-

mitted to act as butcher to all the farmers on his father's estate. His favourite amusement was putting fowls and rabbits to the most cruel and agonizing deaths, and he gloried in gratuitously shooting the roes while with young. Whilst repairs were going on at his father's house, he sawed through the scaffolding in such a manner that when the workmen mounted they might be thrown to the ground. (*Bucknill and Tuke*, p. 256.) A nurse, who felt the impulse to murder the child she nursed, and who begged to be discharged, declaring that the whiteness of the child's skin excited her to murder it. (*Hammond*, p. 397.) Intense impulse in a schoolmaster to murder the boys in his school. (*Bucknill*, p. 262.)

Cannibalism is a characteristic of savage reversion as it is of savage life. We have it commonly expressed in various forms of lycanthropy and vampyrism and other forms of aberration. A writer in the *Journal of Mental Science* writes:—"I was struck when frequenting the Parisian asylums with the number of females who obtruded upon me the piteous confession that they had eaten human flesh, devoured corpses, that they were vampires. I have heard of a homicidal maniac who cries out incessantly for blood-flesh; that he will tear out and roast the hearts and livers of his guardians." (*Ibid.* XX. p. 557.) A girl of fourteen is described as having on all occasions displayed an avidity for human blood and for sucking recent wounds. A man at Sora, in South Italy, hung about the butcher's shops to put his mouth to the gashed throats of animals. He drained the blood of unlucky captives. (*Ibid.* XX. p. 558.)

An epileptic at Jenns, in Italy, was seized with a violent desire to eat human flesh. Escaping from the asylum, he went to his own house, threw himself on his little girl, and devoured her buttocks, chest and thighs; he was after seized and carried back to the asylum. (*Worcester, Insanity*, p. 232.)

Hammond writes:—"I had under my charge a lady who whenever she saw the naked shoulders of a young child, felt an impulse, which she declared she could not resist, to bite the skin. She had thus inflicted several disagreeable wounds on the children of her friends, and was finally arrested on the charge of assault, but the affair was hushed up." (*Hammond, Insanity*, p. 397.) The same observer remarks that often vampyrism prevails among cretins, they dream of digging up the dead with their hands and feeding on the flesh. A notion prevails in Dalmatia that sorcerers tear out the hearts of lovers. Nodier relates the case of a young man having such dreams, and inducing a priest to sleep with him; probably telling anecdotes of the kind they passed to sleep, when the priest dreamed that he saw the demon tear out and devour the heart of his companion, who, from a like dream, fell stricken to the earth. (*Ibid.* p. 253.)

There is a case related in the *Journal of Mental Science* of a woman who, from a bulimious desire for the flesh of her husband, killed him, then ate as much of him as she could while fresh, and pickled the remainder. Elizabeth, of Milan, allured boys by her caresses, killed them, and ate their pickled flesh every day. A Scotch girl, the daughter of an anthropophagous robber, had the same wicked desire as her father. A cannibal of Berg, in Westphalia, did not hesitate to slay a girl and a traveller to indulge his morbid appetite. (XI. p. 525.) The case of a maniac in Scotland digging up the body of his mother, and he was tearing her flesh and hair with his teeth. He then escaped to the woods, and when taken was found to be subsisting on frogs, &c. (*Ibid.* XX. p. 560.) Another, of a savage maniac, who ate snails, and worms, and live frogs; if he finds a dead dog or cat he tears it open and eats some of the lung, because it makes him strong. (*Ibid.* XVIII. p. 453.) A case is recorded by Brodie of a man who would devour raw and even living cats, rats and dogs, and the entrails of

animals, and candles to the extent of fourteen pounds daily. (*Psychol. Inquiries,* Pt. I. p. 103.)

Other perverted food-instincts are recorded. Dr. Elliotson writes that patients have longed for raw flesh, live flesh, so that some have eaten live kittens and rats. One young lady loved to munch brown paper. Some insane persons devour grasses and dandelions, or keenly relish a stray dahlia from the flower pot; some prowl about every day for garbage in the sinks and water-closets. Some, hyena-like, scrape at bones till they are polished with their teeth; others devour the poultices that have been applied to their own sores, or those of a companion. A lady had the custom of putting slices of beef between her leg and stocking, carrying it there day after day, and devouring it when almost putrid. Like many savage tribes, idiot boys devour numbers of earthworms, and Gilbert White records the case of an idiot boy who, like an Australian aborigine, spent the day hunting for bees, wasps and humble bees. (*Jour. Ment. Sci.* XI. p. 513.)

Savage fear, so prominent a characteristic of savage men, wholly unreasoning, whether of men, wild beasts, or fetish influences, is continuously manifested by maniacs, by epileptics, by idiots of all kinds; the fear may be of anything living, a dread of contagion, pollution, poison, or assaulting. The usual response is wild fury, mad terror, or tearing and destroying everything about them. Sometimes the fear is of spirits or demons pursuing them; dogs and lions are eating their flesh. Bucknill and Tuke speak of a lady of fortune who, passing from fear into mania, used bad and abusive language, attacked the nurse and servants, spat upon them, kicked them, bit them, broke the windows and destroyed the clothing. (*Phy. Med.* p. 770.) Worcester quotes a like case, in which the patient used most disgusting language, spat at everyone, smashed all within reach, exposed her person. She stood, he said, with dilated nostrils and heaving breast, the incarnation of ungovernable passion. (*Insanity,* p. 181.)

J. N. Kerlin gives a case in which we have well portrayed the primitive fear of the solitary savage woman. "She seemed in continual apprehension, dread was graven deeply in the tracings of her face, and her nimble feet seemed always ready to bear her away from imagined danger. If a person approached her in the grove she started like a frightened hare, bounding away to some tree or hollow, and there burying her face in her hands or lap. A harsh noise would set the slender muscles of her face in a quiver, and her hilarious joy would sink into the silence of cringing fear. Of an active build, no fence was too high for her to clamber, no ledge too narrow for her balance; with a run for a start she would bound over a chair, and in four leaps descend a long flight of steps. Her gibberish is rapid, expressive; she spoke no intelligible word." (*The Mind Unveiled*, p. 65.)

Esquirol quotes the case of a lady patient whom the slightest noise filled with terror, especially during the obscurity of the night. The steps of a person walking lightly made her shudder, and the wind caused her to tremble. The noise which she made herself in bed frightened her, and obliged her to rise and utter cries of terror (p. 116).

Transcendental changes.—Men whose illusions were that they damaged all that they looked upon. They dried up the milk in the nurses' breasts; plants, flowers, and leaves dried up at their approach. (*Boismont*, p. 427.) Men are turned, as by witchcraft, into wolves, dogs, jars, teapots, &c., grains of wheat. One was Atlas supporting the world, another was a steam engine. (*Bucknill*, p. 200.) Some have delusions of the head being enormously large, of having various things in the stomach, of having children every day. One man said his head was full of snakes; others have demons, fairies, elfs, and giants in various parts of their bodies. (*Hammond*, p. 485.)

Fetish concepts.—That any sentiments regarding the

outer world should be expressed by fetish concepts by imbeciles and the insane, who represent the savage co-ordination, is generally known, and we find the same universal idea of ascribing a conscious personality to stocks and stones, obtains among them as with all savage races and young children who represent the same stage of mental evolution. Who has not seen a child beating the floor, a stone, or its wooden horse for being naughty, in the same way the savage punishes his fetish for not granting him the good things he expected from it? In like manner, in the *Journal of Mental Science*, we read of an idiot who thrashed, when it showed symptoms of insubordination, the cow which offended him, and when a rake or hoe excited his wrath he dashed it to pieces. The father of the boy noting these actions of his idiot son, instead of punishment, substituted bread and water for supper, and a bed of a little straw, with gentle advice. The idiot son adopted the same course. Offending cows, rakes, and hoes were punished by a supper of bread and water, a bed of straw upon the floor, and an admonition. (XI. p. 27.)

More generally fetish metamorphoses are supposed to have taken place. Thus a young woman at Bethlem believed she was turned into a dog; in another case the man, to confirm his idea, barked like a dog. A patient in York Retreat gave this description of herself:—"I have no soul, I have no heart, liver, nor lungs, nor anything in my body, nor a drop of blood in my veins. I have no brain." (*Bucknill and Tuke*, p. 201.)

An insane individual self-convinced that he had sponges, keys, and other strange substances put into his stomach. (*Boismont*, p. 125.)

One believes his hand is made of glass, and he carries it in a stout leather case for fear he should break it. Another imagines his teeth are pearls, and struts about with open mouth to show them, descanting on their value and beauty. Another holds she is endowed with a supernatural

degree of pro-creative power, and becomes spontaneously impregnated, and that she is delivered of a child every night. One conceived she had lost her palate. (*Hammond, Insanity*, p. 338.)

Bucknill and Tuke record the case of a modern paralytic, whose friends called in the aid of witchcraft, and employed the wise man of Plymouth; he used a charm and incantations which consisted in burning the viscera of a sheep in a fire made in the centre of the floor of a room in the patient's house, the fuel an ashen faggot. While the viscera were burning, incantations and passages of Scripture were read. Afterwards, the first failing, another was tried, consisting of burning tapers being carried round the house at midnight, with incantations both said and sung. (*Bucknill and Tuke*, p. 787.) The same writers give the case of one having the delusion that she was transformed into a wheelbarrow (p. 771). Another became insane, said she was under the terrible power of witches, who whispered in her ear that her family was to be burned. (*Ibid.* p. 780.)

Promiscuity—Sexual.—The erotic impulse in abnormal minds is exhibited in several states. In the lowest it is an indiscriminate passion or desire for any one of the opposite sex. Hammond says:—"In some maniacs there is in either sex an intense and irrepressible desire for sexual intercourse and for indulgence in lascivious conduct. The speech is obscene, the gestures are suggestive of what is passing in the patient's mind, and indecent advances are shamelessly made to all of the opposite sex who come within reach. In men, the excitement may run to rape and murder; in women, to ecstatic convulsions at the mere sight of a man." (*Insanity*, p. 552.)

That the spirit of music often survives in idiots, dements, and the general insane, has often been remarked. It is often the last link that attaches the lost ones to our common humanity. One remarkable instance is that of Quénau, an

idiot girl at the Salpétrière, in 1781. She exhibited a great appreciation of music, ever following any air that was performed before her. Even many years after, when she was sixty-three years, and M. Litz visited her, the same power and feeling was presented. He improvised several airs, and Quénau took them, but experienced a difficulty in repeating them, her voice being incapable to reach the pitch in which this celebrated musician sang, and her features expressed both the effort and the inconvenience. When M. Litz touched the piano Quénau was motionless, her eyes watching the fingers of the performer, or she commenced a convulsive movement, turning herself in various directions, biting her fists, stamping with her foot, raising her eye upwards, and using every effort to put herself in unison. The transition from a grave to an acute sound provoked a sudden contraction of all the muscles, as if she was agitated by an electrical discharge; this repeated twenty times had always the same effect. (*Esquirol, Insan.* p. 455.)

Life in all things.—The fetish concept so commonly manifested by young children, that their dolls and toys are sentient beings possessing the same co-ordinate powers as themselves, and which also prevails among savages, so that they esteem that there is a moving spirit in every object they make, is noted betimes in insane patients. Thus an insane lady, of a quiet disposition, who was in the habit of reading a large Bible laid on the table. One morning she was found seated in the arm chair, the table on her lap, and the Bible on the floor. When questioned she said that the table was so tired of holding the Bible that she was tending it for the purpose of giving it some relief. This process was often repeated, and extended to the bedstead, to which she frequently gave opportunities of rest, by holding up for hours in succession the corners of the bed. (*American Journ. of Insanity*, I. p. 206.)

Language Reversions.—Some cretins have no power of

speech. (*Bucknill*, p. 167.) In dementia some lose the power of telling their names, some only utter monosyllables. (*Ibid.* p. 182.)

Such are some of the leading examples of reversion to savagedom. All the habits, sentiments, and crude ideas of the lowest savages are exemplified by degenerate men in states of imbecility, cretinism, and insanity.

CHAPTER VI.

Reversions to Animal Consciousness.

"Man never," as Dr. Maudsley says, "reverts to the exact type of the animal, though he may sink in idiocy to a lower stage of degradation than it. When he has been stripped of all his essential human qualities and degraded almost to his bare animal instincts, he certainly presents an animal likeness which may justify the description of his condition as a theroid degeneracy—but he is unlike in these respects: first, that his mental wreck yields evidence of the height from which he has fallen, and secondly, that the fundamental instincts want the vigour and wholesome activity of the animal, or are actually debased." (*Pathol. of Mind*, p. 115.) This opinion is true, because the physical nature, and even the mental, are never more than partially degenerated; ever some of the impulses, as well as the organic faculties and members, continue more or less in the normal state. More, we have to remember that no theory of evolution has ever supposed an advance absolute and entire. Ever it has been supposed that every movement in specific, much more generic, advance has been simply in single continuous lines of progress, and though the stages may be represented by the binary co-ordinate advances, or by slight changes in sympathetic parts, any general advance to a new type is not only wholly unknown, but never expected. As it is in new organizations, so it is

with reversions. More, reversions in general are morbid conditions which produce morbid results, and as any member of an organism may waste away and atrophy, so may any mental emotion or power, and the other parts carry on their functions as best they can; may be, as in organic changes, the one in some measure supplying in the common organic entity the place of the lost faculty.

Hence, though theroid reversion may never evolve in man a tiger's head or claws, or the snout of a hog, but it modifies the actual impulses of the man to the level of the animal, and in this debased phase he may, like the hyæna, love to revel on putrid corpses, be a tiger in ferocity, and a veritable beast in his propensities. That no great physical change of form occurs is true, but it would be wrong to say that no physical change occurs. Did not Theophrastus, an age ago, describe the influence that animal appetites had on the human figure and the human physiognomy? Our Lavaters would all be at fault, and physiognomy a science as false as astrology, if no effect resulted in the physical aspect from the nature of the impulses in the mind, and the habits resulting therefrom, be they of normal or morbid origin.

We might also refer to actual animal physical degeneracies that have reverted to lower normal types as proofs that a higher organization may accommodate itself to altered conditions, as in the case of blind insects and other blind animal forms in caves and wells, that of the amphioxus and the many animal forms, as medusæ, degraded in development, many losing not only volitional free powers and the special senses, but all active consciousness. As yet, for want of data, we are incompetent to do more than suggest the laws of advancement as well as those of reversion.

Dr. Wynter, in the *Borderland of Insanity*, details the general mental animal reversions. He says:—"No close observer, who has had extended opportunities of studying the habits of persons afflicted with non-development or loss

of mind, can fail to have noticed how strangely like the lower animals they have a tendency to become. One will purr as a cat, another try to bark like a dog. Many reproduce in their own persons the tricks of monkeys, and some simulate less common animals. It is possible, in certain of the most pronounced cases of this class, there is a specific delusion, the victim of lunacy assuming the character of the animal imitated. In the class of affections to which I refer as presenting instances of unconscious resemblances to the lower animals, there is simply non-development or retrogression of the human character."

"A tendency to neglect or forget the proper use of the hands is an early and common symptom. The mouth and lips are employed as organs of prehension and of examination; everything goes to the mouth to be tested. Presently there is a disposition to take food directly from the plate with the mouth, the hand, if used at all, being chiefly employed to steady the dish or turn the food, as a dog uses its paws. This state of things is commonly soon followed by habits of the most revolting description, the refinements of physical taste and sense being obliterated, the appetite becomes essentially gross and voracious. Then not unfrequently occurs a marked inclination to avoid the erect posture, to grovel on the earth, and finally to paw the ear, rub the nose, lick the back of the hand, run round and round before assuming the recumbent posture, to snarl and snap at those about, to fawn upon those feared or looked up to as superiors. The intellectual, the ennobling part of man's nature being absent, disordered, or lost, he sinks back to the level of the lower animals; and as he exhibits their propensity for stealing and other simply brutish inclinations and appetites, he assumes their modes of using the various members of his body, and becomes, as nearly as his developed organism will allow, one of themselves" (pp. 203-205).

On the subject of animal reversion, we read in *Flint's*

Physiology of Man, "that when the human brain is slightly developed, as in idiots, or when the intellectual faculties are simply diminished in activity, as in certain cases of disease, the being is reduced to a condition very like that of some of the lower animals." (IV. p. 329.)

It has been said that "the various mental characteristics of the different species of animals are sometimes manifested by different individuals amongst mankind. As in his bodily organization, so in his mental phenomena, man contains all that has gone before of the same kind. In some we have the gentle, patient, intelligent endurance of the elephant; in others, the savage and cowardly cruelty of the tiger; some exhibit the stealthy, desperate cunning of the panther; not a few are endowed with the obstinacy of the ass; one has the undemonstrative and generous courage attributed to the lion; while another may boast of the ignominious humility of the jackal." (*Jour. Ment. Scien.* VIII. p. 73.)

Maudsley (*Pathol. of the Mind*, p. 116) says:—"The idiot described by Dr. Mitchell presented a singular resemblance to a monkey in his features, in the conformation of his body, and in his habits."

There are many old records of men feeling and acting as if only influenced by animal instincts and perceptions. The companions of Ulysses were metamorphosed into swine. Herodotus speaks of like transformations commonly taking place. St. Augustin said certain women in Italy changed themselves into horses by the use of certain poison. In the fourteenth century, cyanthropes and lycanthropes abandoned their dwellings to plunge into forests, allowing their nails, hair, and beards to grow, mutilating, and, in some cases, killing and devouring their children. At Besançon, in 1521, Pierre Burgot, Michel Verdun and Le Gros Pierre confessed that they had given themselves to the devil. Burgot owned that he had killed a young boy with his wolf's claws and teeth, and would have eaten him

if he had not been chased by the peasants. Michel Verdun said he had killed a young girl when gathering peas in a garden, and that he and Burgot had eaten four other girls. (*Boismont*, p. 298.)

Even a very special instinct may be recalled. A perfectly idiotic girl in Paris, having been seduced by some miscreant, was delivered of a child without assistance, and it was found that she had gnawed the umbilical cord in two, in the same manner as is practised by the lower animals.

In *Brain* (III. p. 408) we read of an idiot girl who uttered a cry like the bark of a dog, and but few words. She was timid, destructive, spiteful, and revengeful. Had a habit of stealing, not from hunger, but love of mischief; apathetic in general, but fond of children.

The general principle of animal simulation prevailing in various forms so commonly among idiots and a certain of class of the insane, tended materially to create the doctrine metamorphism. The man who acted as a brute was inferred to be possessed by a brute or to be changed mentally into the animal whose habits he presented. Lycanthropy expressed this species of derangement, and no doubt the Greek legend of Actæon had its origin in the eccentricities of his madness. The monsters of Circe were animal idiots, and there have been more Lamia's than the Hellenic folk-lore record. Traces of vampyrism are found in the stryges of the Talmud. The reversion to animal forms was a common infatuation in the sixteenth century; it took the cat form in Western Europe, occasionally being manifested in wolf, hare, fox, dog, raven, and other transformations. In Scotland the maniacs thought they took the forms of crows, hares, foxes, cats, and dogs.

Of the traditionary lycanthropy Gurney says the main burden of the proof seems to rest on about four cases:— either the eleventh century legend quoted by William of Malmesbury, of the two old women who kept an inn, and transformed their guests into asses, or the equally mythical

tale of the woodcutter who wounded three cats and declared that afterwards three women accused him of wounding them. Peter Stubbe, who was lit upon unexpectedly by villagers hunting a wolf. The man who cut off a wolf's foot, and when drawing it from his pocket found it was the foot of his host's wife. (*Phantasies of the Living*, I. p. 173.)

In the beginning of the eighteenth century lycanthropy prevailed generally in Hungary, Moravia, Silesia, and Lorraine. It was, as Hammond says, an epidemic among the mountains of the Jura. Pernette Gaudillon thought he was changed into a wolf, and, going on all fours, seized a girl gathering fruit. Her brother defended her, but Pernette, grasping his knife, dealt him a blow in the throat which speedily proved mortal. The people tore him to pieces. One confessed that, in the form of a wolf, she killed many children, dragging them through the ravines and over the rocks. (*Hammond, Insanity*, pp. 509, 510.)

Nor is it only in legendary Europe that these perversions to animal natures have abounded both as in the forms of lycanthropy and vampyrism. The idiot animal monstrosities are found in the ferocious Kali in India and in the cannibal gods of many races. In Abyssinia the class of pewterers and blacksmiths are regarded as having the power to transform themselves into hyænas, and in India men are credited with transforming themselves into tigers.

The same class of morbid mental powers that in the olden time gave origin to the legends we have referred to, still excite the minds of the living lovers of the supernatural, and instances are occurring in the nineteenth century that will bear comparison with the wild legends of transformation among any of the old world races. Bucknill and Tuke speak of the insane supposing that they took the forms and instincts of wolves, dogs, lions, cats, cows, sparrows, and cuckoos. (*Psy. Medic.* p. 200.) One of the Convulsionaires barked like a dog. A patient in the Paris Asylum believed himself to be a horse, and neighed like one. Another had the same

self-transformation, in the Essex Asylum, pawing and prancing about. (*Ibid.* p. 203.) Boismont describes a mason who had strange visions, and refused nourishment; but two days after he devoured the food that was offered to him with extreme voracity, he howled like a wolf, showing a disposition to bite. (*Boismont*, p. 299.) Another case, given in the *American Journal of Insanity*, is of the same character. A woman believed herself to be a wolf or dog; she declared she was labouring under hydrophobia. She used to spit and grin, and snap her teeth as if anxious to bite, and would tell us to stand off, or she would destroy us. She made a series of lupine or canine demonstrations.

The most remarkable and revolting exhibition of animal instinct was that which at "the close of 1848 roused Paris into a state of fearful alarm. The cemeteries of the dead had been violated at Mount Parnassus; the corpse of a female of fifty had been removed, exposed, and frightfully mutilated. Later on another corpse, that of a young woman, was discovered exposed. Then news came from Ivry, a village near Paris, that the body of a young woman had been dragged from its resting-place, and that of a female who had died in childbirth, had been similarly treated; in each case the remains were mutilated, the stomach and bowels opened and removed. In the last case there had been the attempt to gratify an unnatural crime. After some time, the offender, Serjeant Bertram, was discovered, owing to his having been wounded in an attempt to scale the walls of Mount Parnassus. His monomania was to get the corpse of a woman, to cohabit with it, mutilate it like a hyæna, and, having done so, he fell into a stupor. (*Jour. of Psychol. Medic.* II. p. 586.)

Morel gives a case in which the man thought he was a wolf. "See this mouth," he exclaimed, separating his lips with his fingers, "this is the mouth of a wolf. I have cloven feet. See the long hairs which cover my body, let me run into the woods." Another time he said, "Give me raw

meat for I am a wolf." His wish was complied with, and his mode of eating was just like that of a wolf." (*Ibid.* p. 203.) A young woman at Bethlem hospital believes she is turned into a dog. Another case in which the man barked like a dog. (*Ibid.* p. 204.)

Without the full evolution of animal consciousness, the reversion is sometimes evinced in the modification of a single faculty to the animal nature. Language for the time is wholly gone, and all the man or woman can do by way of expression is to utter animal cries. Boismont says the irresistible desire to cry out exists frequently in females. Sometimes it consists in barking, howling, groaning, or mewing (p. 478). Bucknill and Tuke describe an idiot at the Salpétrière who, when she attempted to speak, uttered a hoarse cry, or a sort of articulate jerking grunt. (*Psy. Med.* p. 153.)

We cannot but here pause to note one speciality, allied with language, which distinguishes some quadrupeds and many birds and even insects, the power of time and tune. The song of the bird and the hum of the insect are its most expressive manifestations, but the dog and wolf howl in time. There is a plaintive melody in some animal cries, even the hiss of a snake has harmony in its inflections. Hence there may be the presence of music-power without language, and it is a singular fact that a capability to appreciate and express musical sounds prevails largely among idiots, and is often manifested by the insane, and that often only when the paroxysm is upon them; in their normal state they may possess no power of musical expression. In this respect the powers in the idiot and insane mind accords with the instincts in the animal natures.

On this subject Ireland says :—"While no animal can speak self-evolved, many can appreciate and some give out musical insonances. The power for music appreciation precedes language. Idiots in general have some ear for music; many can hum tunes correctly who cannot speak a

word, and cannot understand speech. Some use the voice to imitate tunes, though not to repeat words." (*Ireland, Idiocy*, p. 274.) "A female idiot, stunted in growth, child-like in appearance, who was unable to utter a single word, but chirped like a bird, the only sounds she attended to the jingling of keys and the play of musical instruments.' (*Ibid.* p. 82.)

Besides the isolated similitudes of animal life common with the insane, there betimes occur instances in which the similitudes are so specially distinctive of a single form of animal life, and of so remarkable a character as to attract, not only the attention of the attendants, but also of the medical gentlemen having charge of the insane patients. These, as will be seen by the cases we shall quote, refer to various orders of quadrupeds, to reptiles, and birds. Movements and actions only explainable by supposing the patients are influenced by the same forms of impulses and the same peculiar instincts as the animals, can account for these peculiarities. They cannot, in many instances, have been acquired, as most would have had no opportunities to observe the special impulses they represent, and usually the peculiarities are unconsciously acted as if—as in so many cases idiots and lunatics assert that—they are impelled by a power within, an impulse that conquers their will, and even causes them to do deeds that their feeble co-ordinate consciousness is powerless to resist.

Ireland writes:—"Vogt and other disciples of Darwin see in the mental characteristics of the microcephalic idiot something resembling that of the anthropoid ape. It seems to me that the intelligence of a monkey is very different from that of an idiot. You cannot reach the Simian intellect by merely deducting so much of the human. It is different in kind as well as in degree. Monkeys are alert, watchful, and nimble, very careful against wild animals; they do not lie down to sleep, but sit upon trees all night; their slumbers are light, they are

attached to and careful of their young. On the contrary, microcephalic idiots have no fondness for climbing, and are destitute of animal instincts as they are of human intelligence. They have no powers of feeding and protecting themselves from danger, and if left to themselves would soon perish. The sexual manifestations of a microcephale are feeble; there are no records of a microcephalic woman having a living child." (*Idiocy*, p. 86.)

In these remarks Dr. Ireland takes cognizance of the general attributes of idiots, and compares them with the general activities of monkeys; this reasoning is necessarily inconclusive. No one expects that all microcephales or insane men and women will revert to the special attributes of monkeys. The greater part merely manifest the want or degradation of human powers, and they, therefore, exhibit no marked speciality; but the monkey has distinct monkey instincts, as Dr. Ireland shows, and therefore it is necessary that these should influence the idiot mind to cause it to denote the qualities and impulses of a monkey. Dr. Ireland, no doubt, has great experience of the idiot mind, and he may not have had a single one who denoted the instinctive habits of a monkey, but even, as we have just shown, he recognized in one idiot girl that she chirped like a bird; and he says that Lombroso describes a foundling who leapt with the spine bent and the hands before him like an ape, and went by the name of monkey. (*Idiocy*, p. 87.) He likewise gives the case of the three brothers Ceretti. The eldest had his arms long, no beard, never learnt to work; the second had the superior canines more developed than normal; he was malicious, beat the younger without mercy to get his bread and money; ground his teeth. The forehead of the younger was covered with down, the upper incisors were larger than usual, the canines isolated; he rolls his eyes quickly, like a monkey; taste abnormal. (*Idiocy*, p. 101.)

Dr. Howe, of Massachusetts, an equally competent

investigator of the mental attributes of idiots, saw more definite monkey attributes in his idiotic pupils than Dr. Ireland. He says:—"One of our pupils has a strong likeness to a monkey, he has the long arms of the ape, he moves about with head and shoulders stooping, his arms hanging forwards. One of his pleasures is to climb on a desk or high place and leap through the air, with outstretched limbs, upon someone's neck, and cling round him, not as a child does with his arms alone, but twining his legs about him as though he were one of the quadrumana." (*Journal of Mental Science*, VIII. p. 85.) The same publication also says:—"The great majority of idiots psychologically resemble monkeys." (*Ibid.* VIII. p. 87.)

"The mandrill, *Papio maimon*, in its passion, may be compared to the maniacal child, or to certain idiots who, in paroxysms of violent anger, will sometimes fall down in actual convulsions." (*Jour. Ment. Science*, VIII. p. 75.)

Ireland also gives the instance of an idiot known as the *bird-man*, because of his simulations of bird instincts. He chirped, he leaped on one leg, and, before putting himself in motion, he stretched out his two arms like wings; he used to hide his head under his armpit; chirped strongly when frightened. (*Ireland, Idiocy*, p. 99.) In the *Journal of Psychological Medicine* is given a case at West York Lunatic Asylum of an idiot unable to speak, and in appearance and habits partaking more of the brute than the human species, expressing pleasure or disapprobation by a wild cry, or by flapping his arms to and fro like the wings of a bird, and being destitute of such intelligence as would enable him to be destructive or mischievous. A peculiarity marking him is that he ruminates his food, a portion being raised from the stomach, sometimes by a visible effort, deliberately chewed and swallowed. (VII. p. 169.) Bucknill and Tuke record an analogous case of chewing the cud as is customary with many herbivorous animals. An idiot boy at the Asylum for the West Riding

of Yorkshire, aged twelve years, swallowed his food without mastication; it returned, however, from the stomach, was chewed, and re-swallowed. (*Psychol. Medic.* p. 152.)

Pinel's case of a female idiot manifesting many of the instinctive attributes of a sheep, has often been referred to. She had an aversion to meat, but ate fruit and vegetables greedily, and drank nothing but water. Her demonstrations of sensibility, joy, or trouble were confined to the repetition of the ill-articulated words be, ma, bah. She alternately bent and raised her head, and rubbed herself against the belly of the girl who attended her; if she wanted to resist or express her discontent, she tried to butt with the crown of her head; she was very passionate. Her back, her loins, and her shoulders were covered with flexible and blackish hairs, one or two inches long. She never could be made to sit upon a chair or bench, even when at meals; as soon as she was placed in a sitting posture she glided on the floor. She slept on the floor in the posture of animals. (*Journ. of Mental Science,* VIII. p. 85.)

A singular case, exhibiting reptile characteristics, is recorded in the American *Journal of Insanity*. A coloured girl of eighteen disobeyed the prison rules at the State Prison, Sing Sing, New York, and the matron gave the following statement of her conduct:—Though she was gagged and had the straight jacket put upon her, as often as they were applied she found means to remove them; so the governor determined to watch her, and she was again gagged and jacketed, and lying prostrate on her wooden bedstead, a cord was wound round it and herself by a strong man. But no sooner was she left than she commenced a series of serpent-like contortions, and continued them until she had wound herself quite out of the ropes, and released herself from gag and jacket. Her actions and movements had a remarkable resemblance to those of that reptile. Her skin was also spotted like a common species

of snake, and her pulse, even in health, was so small as to be scarcely perceptible, and her flesh was cold. Her powers of endurance passed belief, her perversity never flagged, and her physical wilfulness was never subdued, her fiendishness never checked. Apparently, a spiteful snake in human form. With many of the characteristics of a cold-blooded animal, such as turbid circulation, cold surface, &c., she was also utterly restless. She was a most wonderful liar in word and deed. The most astonishing fabrications were the spontaneous product of her mind. She was possessed of quick perceptions, good reflective capacity, a large share of ideality, marvellousness and imitation. She was wholly uneducated, not knowing the alphabet. She had much love of painting and drawings, and sketched with spirit, taste, and considerable correctness. She had no human kindness, nothing human, indeed, but her form. (III. p. 129.)

Ireland gives the case of a rabbit-man, so called from the habit he had of moving the nose and lips, and from being timid and fond of green vegetables. When frightened, stamped with his foot as rabbits do. (*Idiocy*, p. 83.)

It is recorded of Henri of Bourbon, son of the great Conde, that at times he imagined himself transformed into a dog, and would then bark violently. (*American Journ. of Insan.* I. p. 306.)

Mere animal consciousness.—A fisherman's family in America are thus described:—"One lay motionless on a bed of ferns in the corner, one sat on each side of the fire on rude stone seats, gazing on but not seeing the flame. They were dwarfs in size, deformed, with thick crusts on their heads; mute, without notion of times and seasons, or light or any external sensation, save heat. There they sat for twenty long years, and may be seated there still." (*Ireland, Idiocy*, p. 331.)

Wild idiots.—There are many narratives of boys and girls nourished by wolves and bears and manifesting a low-

class human intelligence. These, in general, are only instances of loss of human nurture, not necessarily of mental reversion; but in some such cases in India they were evidently natural idiots allowed to run wild, and, may be, associating with wild animals. Ireland in his *Idiocy* has recorded several of these reversionary cases. One, a boy, was brought to a military station. "They tried to make him speak, but got nothing from him but an angry growl or snarl. When a grown-up person came near him, he tried to steal away, but when a child came near him he rushed out with a fierce snarl, like that of a dog, and tried to bite it. When any cooked meat was offered he rejected it in disgust, but when any raw was offered he seized it with avidity, put it on the ground under his paws like a dog, and ate it with evident pleasure. He made no objection to a dog sharing his food with him. He can never be induced to keep on any clothing, even in the coldest weather. He has eaten half a lamb at a time without any apparent effort. When his food was placed some distance from him, he would run to it on all-fours, like any four-footed animal. He seemed to care for nothing but eating" (p. 373).

A *property impulse* analogous to that manifested by the bower-bird of Australia—a sort of kleptomania with no purposive use, or as the motiveless thefts of the pie tribe—is common with idiots and the insane, such as collecting straws, sticks, pebbles, or anything bright. Patients under this impulse carry about in their clothes great quantities of rags, twigs, pebbles, flowers, bread and cheese. Some collect stones till scarcely able to move, then they suddenly free themselves and commence again to hoard. One patient had pockets constructed in all portions of her dress, even to having one in each wristlet. (*Jour. of Sci.* XI. p. 531.)

Animal fear.—This state of persistent uncontrollable fear that so often results in a stampede in gregarious animals is

sometimes manifested by insane patients. Boismont says:—"I have known ladies under the influence of this affection commence running with all speed to take refuge in some lonely spot where they could not be noticed. They have afterwards told me that they obeyed an irresistible impulse" (p. 479).

Animal love.—One quotation will suffice to show the wide prevalence of this indiscriminate feeling among the insane. Hammond writes:—"It often happens that the subjects of emotional monomania do not restrict their love to any one person. They adore the whole male sex, and will make advances to any man with whom they are brought into even the slightest association. If confined in an asylum they simper and clasp their hands and roll their eyes to the attendants, especially the physicians, and even the male patients are not below their affections. There is little constancy in their love. They change from one man to another with the utmost facility and upon the slightest pretext." (*Insanity*, p. 405.)

There are cases in which not only has the reversion been to the lowest animal state: some are so degenerate that they fail to present, like the fisherman's family we quoted, any sign of active consciousness. They have no instincts, and even the vegetative reflex movements fail to respond. Bucknill and Tuke relate the case of a boy who "though reared to the age of ten, never from the time of his birth did he exhibit any distinct indications of consciousness. Food had to be carried back into the pharynx in order to be grasped by the constrictors." (*Man. of Psy. Medic.* p. 152.)

Bucknill writes that "Cretinism in its lowest forms reduces the being to the state of manifesting only vegetative functions; and being deprived entirely of reproductive and intellectual faculties, including the power of speech. They are short. Deafness is frequently the case. They are old at fourteen." "Some from utter stupidity and help-

lessness," as Worcester says, "are unable to feed themselves, or even swallow what is put in their mouths. Cases are on record where life has been sustained eleven years by artificial feeding." (*Insanity*, pp. 70-77.) Lower than this preconscious state there can be no reversion. The state of unconscious catalepsy neurotic produced by certain drugs or gases, occurring in some states of somnambulism and hypnotism, and in certain diseased conditions, comes within the same category.

BOOK III.

THE HUMAN PERSONALITY IN ITS INTERNAL AND EXTERNAL RELATIONS.

CHAPTER I.

Modes of self-government in the co-ordinate Personality.

That the personality in man does not always denote the same mental and organic combination has always been a matter of observation. Besides the variations resulting from physical causes and general disease, there was a time when every moral or physical derangement of the common co-ordination in an individual was considered to express the influence of ultra-natural powers; some unknown or uncomprehended fetish-power influenced his nature, or his mental and organic faculties were controlled by a ghost or spirit which had entered his body. Now we detect not only various forms of super-personality, but various causative influences, mental and organic, which modify the resultant personality.

The most general and most striking form of personal derangement is when a human being acts, thinks, and describes himself at one time as denoting a very different personality from his ordinary normal state. Many phases of this double self-perception occur in fevers, in insane states, under the influence of toxics, in dreams, and even consciously in several neurotic waking states. Sometimes the personality is simply changed; the consciousness is the same, or he may have become another man, a woman even,

and fulfilling her organic functions. Even parts only may represent other personalities, even material objects. More, the personality in its new phase may have gone outside humanity and have become a wolf, a tiger, a snake, having in it all the emotions and impulses characteristic of the animal it affirms it has become. Sometimes the change presented in the expression of the ego does not fully define a new personality, only that certain portions of the secondary personalities are changed. The ego is still the same John Jones and never was other than John Jones, but the mental character, the moral attributes, the emotional impulses now exhibited by John Jones are very diverse from those that formerly John Jones manifested. This supplementing the normal John Jones with other attributes may even extend, at least to his own perception, to a change in his mental and moral powers, even to other organic formations. There have been such John Jones's who have had their legs transmuted into glass or, like Bottom, the weaver, their heads have been transformed, or they have become pigmies or giants, they have been afraid to move for fear their attenuated bodies should fall to pieces, or they may have become grains of corn and are in fear that sparrows may devour them.

The old world literature, both historic and imaginative, is full of such altered personalities. It enters into the mental superstructure of every faith, and is prominently expressed in folk-tales or embodied in folk-lore. The personality of the man is so altered that, like Actæon, his dogs fail to recognize their master and devour him. The mental personality may be changed and, like Nebuchadnezzar, the man may devour grass like oxen. In infinite ways men and women may become wolves, hyænas, tigers, lamias, hogs, horses, even trees, rocks, and stones.

From these monstrous concepts we will pass to the sober, sad realities of abnormal personalities as now presented by discordinate human hallucinations, and the striking

phenomena manifested in various abnormal states by the human being, some variations of old credences, others evincing new and, as yet, undefined co-ordinate organic and mental states.

All recognize certain classes of modified personalities as those induced by fermented and alcoholic drinks, by drugs, phases of altered moral personality in dreams, in somnambulic states, and as resulting from diseased conditions. Under growth-changes new mental characteristics, new personal manifestations, arise; the character alters, and we may have three or more John Jones's in the passage from the boy to the adult, and finally to the old man.

Some of these changes arise from internal influences, others from external. Growth-changes have something to do with many, others arise from generally altered conditions, some from the influence of other personalities through the emotions or mind-impulses. Education, sexual attraction, social association, religious, and other influences mould the individual personality according to their specific presentations.

In ordinary society one personality may greatly influence another personality; the mere presence of the individual has an immediate influence over other personalities; and in the ordinary inter-associations of society, by speech, by volition, by various modes of power transference, its thoughts and actions control and command other personalities.

That which under ordinary interaction ensues in controlling other mental demonstrations may, under certain intentional presentations, cause absolute energy to pass in various modes from one personality to another. These influences may be exhibited in mere ordinary association, but may, as parasites, course through his veins, cling to his intestines, burrow in his muscles, and live in his brain. We may not, we cannot, count the many stages and elements that constitute our normal and abnormal person-

alities and their many modes of action, with the special influence that discordinate vital elements cause them to manifest.

A normal personality is one that in each stage of its growth possesses the full average number of organic parts and mental faculties in an average state of healthy, variable equipoise, all sustained and actively manifest in special accord with their importance in the common co-ordination by the general energy. If from any circumstance a member or faculty is withdrawn or cast off, it is apparent that the share it utilized of the common energy would be left as a supplementary supply to the remaining members in the co-ordination. This is first of all retained in the common fund of energy, but as the whole personality loses by the failure of the lost faculty there is always a tendency for some of the other members of the co-ordination to, as far as practicable, supply its place. This re-adjustment of duties, and consequent re-arrangement in the distribution of energy, is strikingly present when the failure of one of the sense-powers induces the co-ordination to transfer, as well as can be, its special duties to one or more of the remaining senses. Thus the blind man's sense of hearing and of feeling become exalted; they measure distance and size, and become moral indicators, selecting and defining individual characters; more,they learn to distinguish colours. When the sight fails to distinguish persons the senses of hearing and feeling take its duties: the sound of breathing, the motion of the air, the step, a variety of the most delicate impressions come to the aid of the mind, and specialize an individuality. Julia Brace, at Hartford Asylum, selected by scent her own clothes from out of those of one hundred and forty persons, always distinguishing those of boys from girls. Even in ordinary life, sense-perception, without seeing or hearing them, will make us conscious of the presence of friends; we may unknowingly smell them, we may, as it were, breathe of them, but somehow, without

resource to supernal telepathy, there is a great natural range of sympathy and affinity.

To what almost prescient acuteness such powers may attain we, as yet, know not; there have been no long scientific investigations of the working of such phenomena. The exalted powers, when manifest, are purely individual growths, the result of habit accruing from necessity or self-suggestion. Such are visual words and numbers, such is the perception of coloured sensations, for each musical note, even the flavour of foods, suggests in the requisite sub-personality, harmony with certain sounds and colours. These faculties become automatic; they work outside the general consciousness. We may, like Robert Houdin, with the full manifestation of sight and volition, catch four balls continuously while the mental faculties are fully occupied in reading a book or solving a problem. Instances are on record in which no claim of other than natural power is presented which seem to equal many of the assumed clairvoyant prescient perceptions. A Mrs. Croad, of Clifton, was totally blind and deaf, and partially paralyzed. A picture card or photograph she examined by placing it on her chin or mouth, perhaps drawing it across her forehead, then she examined it with the fingers of her right hand, then concentrating her mind on the picture of the impressions thus obtained, she wrote a description on a slate of the objects and the colouring on the card. (*Jour. of Sci.* III. p. 542.)

Wallace quotes the case of a patient who could hear by the palms of her hands, read with the tips of her fingers, which she passed rapidly over the page she wished to read. She copied a letter word for word, reading it, we are told, with her elbow, while she wrote with her right hand, thick pasteboard intercepting any visual ray. (*Miracles and Mod. Super.* p. 67.) Mayo describes the case of a somnambulist who read with her skin, and pressed the palm of her hand against the whole surface of a printed or written

page, deliberately, as it were, to take off an impression, and thus became acquainted verbally with its contents, even to the extent of criticising the type, or handwriting. She called this sense-feeling. Contact was necessary for its manifestation. (*Truths in Pop. Super.* p. 112.)

The perceptive powers may not only be transferred, they may be altered in accordance with the nature of the general personality or any special part. Thus, a patient, who was so deaf that he could not hear any spoken sound, or the firing of a cannon, could hear the sound of a mouse running on the floor. A patient, said to be deaf to all ordinary sounds, yet could detect the sounds of muscular contractions made by the muscles of the face and arm, and can hear a sound plainly when an eight-cell current goes through the ear. Certain deaf persons do actually feel sound, as they express themselves, by vibration through other channels of nerve communication than auditory nerve mechanism. (*The Alienist*, IV. p. 498.)

Hallock, in his *Psychology*, in 1848, speaks of a susceptible medium to whom pictures did not appear as pictures, but as the things represented. Thus the picture of a rose would convey as vivid and real an idea to her sensorium as the rose itself. Hence, if the picture of thistles, teasels, or other prickly plants were given into her hand, the moment the tips of her fingers came in contact with the picture, she would exclaim she was pricked (p. 88). In this we have only intensified sense of a subjective character, though heightened to objective.

It is this capacity in some minds to so highly exalt its subjective impressions into objective realities, and in association therewith, if wonder finds coincidences, that the hallucination becomes spiritual. In the lower phase, it is no matter the substantial distance, soul is in telepathic communication with soul, and thought and inference may pass from one to another to the more general perception. This now affirmed telepathy becomes an actual presentation

of the spiritual organism, unrestrained by either time or space. It may present a long past event, it may narrate a crime in progress, or, with prescient consciousness, exhibit wounds that have yet to be inflicted, or in these several timal stages, though happening thousands of miles off, bring the phantasmagoria images into the bedroom of the sleeping recipient. All such are self-suggestions.

We know that such presentments come in some as crude chaotic subjective revivals, and are wholly unheeded, that they pass through every phase of possible acceptance from the subjective, till they stand boldly before the mental presence as actual embodied personalities. The senses realize them; they are not only seen and heard, they are felt, and thus claim mental recognizance as certainties.

The association of facts and functions in the personality cannot always be traced, but like results following like interactions affirm the parts, have special affinities. Such connection is implied in the various warnings that announce a coming disease, as Du Prel relates. Galen quotes the case of a man who dreamed his leg was turned to stone, and in a few days it was paralyzed. Macario dreamed of an acute pain in the neck, but was quite well on awakening, yet a few hours after he had violent inflammation of the tonsils. So special derangements induce special hallucinations. Verey said:—Bloody fluxes are announced by dreams of red colour, lymphatic effusions by dreams of inundation. One dreamed of wild cats regularly before the recurrence of his chest spasms, another of throngs of people before his attack of fever. Suggestions of derangement may arise in various impulses and impressions. Thus Bonetus cites the case of a lady who could foretell her complaints quite regularly and certainly a few days before their occurrence, by dreaming of her physician. In like manner violent co-ordinate disturbances intimate the coming of insanity. (*Du Prel*, I. pp. 197-200.)

There are physical injuries which affect far distant parts

with which they have some unknown relations. Such are the various origins of tetanus. So diabetes may arise from brain and spinal affections. The evidence of spinal injury is presented by the hands; there is an unusual thickening of the joints of the fingers, and a loss of action, with permanent contraction of some of the muscles. A remarkable case, implying an affinity between the thyroid gland and the mental centres, is described in the *Lancet* (1890, II. p. 1220). Four children were born, in one family, with a complete absence of the thyroid gland; they were all cretins, and the removal of the thyroid gland in monkeys induces a cretin state.

It is a beautiful exemplification of the harmony that exists in the organic and inorganic worlds, that in all cases in which organic derangements take place, and the parts fail to derive recuperative forces from organic nature, that they appeal to inorganic. The earth hunger, the hunger for fresh air, for bathing, and other appeals to the physical world, are equally accompanied with hunger for special organic substances, and the two classes of desires are not only general, but special. The suggestion may be presented through the consciousness, but it is evolved in the sub-personalities and by them impressed on the consciousness. It would appear that all therapeutic substances have special accord with one or more of our sub-personalities, our organic parts or organic functions. They have various special qualities on the various special parts, increasing or depressing their excitations, or regulating them as co-ordinate responses. Diverse animal, vegetal, and mineral principles have diverse interactions on special local functions and parts. Thus strychnia stimulates the respiratory centre, acts direct on special muscles and influences the spinal cord. Nux vomica has distinct relations with the powers of the stomach. Chloral exerts an activity on neuration, the opposite of strychnia. So lobelia paralyzes the respiratory centre. Cannabis increases and deranges brain action. Ergot affects the

heart and arteries, and stimulates muscular fibre. Opium neutralizes delirium and induces sleep. Cyanide of potassium, antagonistic to the vital energy, acts powerfully on the skin, hair, nerves, muscles, and glands, and arrests the heart. Hyosein, on the contrary, strengthens and quickens the heart's contraction, and directly influences the kidneys. There are other therapeutic agents responsive to special secretions, special states and special parts.

Of the inner intimate relations of the faculties and powers in the human personality we know but little, and still less of the forms of interaction when any of the functions or parts become discordinate. Such information as we have been able to glean of the innumerable modes by means of which the sub-personalities work in their co-ordinate and discordinate relations we will now consider.

There are two great co-ordinating powers in the physical personality, the nervous and the capillary. In the higher animal organisms these are centrally aggregated, and each is only manifest as a single form of expression. Yet we have to remember that this unity in each power is an acquired character, that primarily there were many ganglions, many hearts, and that even in each organism now, in its evolution, the multiple stages of many centres of nervous action, many centres of pulsation have to be passed through in the passage from the plasmic to the fully organized personality. The heart and the brain are one only in name, as is the congress of many federal states. Every ganglion of the brain, every sub-pulsation, has its direct association with its co-ordinate sub-personality which it may influence without reference to the other sub-personalities, and which may be influenced by it without reference to other parts.

It is under these forms of action the whole organic phenomena revolve. Centrally we have the harmony of the aggregate co-ordination expressed by the ego, its power a necessary evolvement to enable the co-ordination to enter

into relations with the outer personalities, and express internally the unity of action of the sub-personalities. For these purposes consciousness was requisite, and that necessitated a combined brain in association direct with an united heart. Under normal conditions the co-ordinate personality works in equipoise, and ever each individual function has its period of action and repose, and the aggregate unity in like manner has its conscious and aconscious states. Thus under normal conditions the common fund of energy in its double nature by the nerves and capillary vessels is distributed severally to the various parts according to their special requirements, and, as if conscious sub-committees, regulated the relations of the district members, any falling off of action for the common good, through temporary loss or disintegration, is supplemented by the greater energy or the larger powers supplied to the local faculty.

Such are the general principles which enable the higher personalities to carry on the attributes of the common co-ordination, but in addition to the united federal activities each co-ordination has its many sub-personalities or states, each of which has its own internal jurisdiction, its own purposes, its own attributes. Local wants, like local politics, bring pressure to bear upon the great central distributors of energy, whether in the form of nerve force or capillary stimulation, or, may be the central consciousness may itself call for enlarged action in any special member or faculty.

To leave similes, we have these two distinct modes of organic activity continuously present to us in the co-ordinate working of the personality; the will in various forms of suggestion calls on the general or any special part or function for increased activity or activity in any distinct line, it brings the concentrated energy with full force to bear upon the part and re-establish its own internal stability, or bring it into united action with the other sub-personali-

ties to enable it more immediately to aid them in the work of regeneration, or supplement their efforts by utilizing their own energies on the other's special lines of duty. So in like manner each faculty and power, from the greatest sub-combination down to each cell and granule of plasma, exhibit direct self-activity, and in their several natures, and according to their special attributes, appeal to the local and ultimately to the central unity. Thus activities to consolidate and activities to disintegrate may arise equally in the central co-ordination or in the sub-individuality.

The manifestations of power from the centre to the extremities are presented by the action of the will consciously employed to restrain and influence the actions of the secretions, even mentally influencing the recuperative powers, and thereby even physically modifying the organism. The birth of new differentiations and the origin of new species are specially due to this organic capacity. Besides this mental energy telepathed to the parts from the central will or consciousness, there are likewise organic activities induced through the nerves and capillary system which begin in perception or reflection and proceed both consciously and unconsciously to their respective sub-personalities, and there develop increased energies. Solly says:—Blushing and erections of the penis are instances of sudden determination of the blood to a particular part. And the lachrymal glands, salivary glands, testicles, prostate glands, and even the kidneys, often pour forth their secretions so abundantly and so suddenly that the formative fluid, the blood, must have circulated through their capillaries in greater quantity and with greater rapidity than when the glands were at rest and their secretions suspended. I think that the periodic attacks of mania with which many of the insane are afflicted may be regarded in this light. (*Surgical Experiences*, p. 168.)

Suggestions to the consciousness from the local members may come in the forms of monitions. Of this class

pain, in its multiple presentations, is an ever recurring example. The faculty or members deranged appeal thus to the central energy, and more especially to the conscious ego, that it may aid in its restoration to normal conditions. For this purpose they affect the perceptions, they act on the muscles and nerves, they distend the capillaries, and, by means of local irritations, will to be observed. Thus, before the epileptic attack there comes a warning cry in the ears, or increased mental excitement prepares their friends for new paroxysms. Not only apoplexy but many other diseases, even fevers, give long intimations, by abnormal sensations and feelings, of the change of conditions evolving.

Inflammation is one of the forms in which the parts may individually or collectively appeal to the consciousness. Thus, a thorn may penetrate the hand, by pain the consciousness is called on to remove it at first, if that is not done local inflammation arises, the flow of blood to the injured part is intensified, and by the increased action the cells may expel it or they more strongly appeal to the central ego to aid them. Every member has its own powers of nutrition, growth, and reparation; and may we not assert that each has its own mental, aye moral, nature?

Such is evidenced in the warning influences given for them in the incipient stages of epilepsy, of apoplexy, in some fevers, even in the mournful appeals of some lunatics for self-restraint. Have we not the same restraintive appeals presented in the early stages of local palsies, as in the scriveners' palsy, the shoemakers' cramp, the musicians', the compositors', and sempstresses' local cramps? Not one of us but knows that every member, every faculty of the body gives intimation when it needs repose, and which, if not attended to, that associate parts respond with sustaining help, and, for a time, withhold the collapse of every power. These special forms of help may accrue from widely separated powers; thus, in acute inflam-

mation of the brain the kidneys secrete a large quantity of phosphatic salts.

The socialist principles governing the relations of the sub-personalities have been ably expressed by Paget in his *Lectures on Surgical Pathology*. Thus, in nutrition, certain organs stand in complemental relation to each other, so that neither of them can be duly formed or maintained in healthy structure and active service unless the right condition of the blood be induced and preserved by the formation of the other (p. 21). It is certain that the blood must contain, or the cells or plasma secrete, all the needful ingredients to supply the substance of growth to every part. If there is anything failing, the member or function, devoid of its due co-ordinating food, appeals to the faculty of desire in the ego, and there is evolved a craving for substances containing the required ingredient. There can be no doubt, not only with animals, but vegetals also, that the growth of special tissues are due to the supply of suitable food. It is so with the development of leaf, root, and fruit crops; it is so in the growth of muscles, bones, hair, wool, &c. In the last the existence of certain materials enter. From these premises we may account for:—first, the desire in an organism to acquire special foods; and secondly, the fact that the various systems of organs withdraw from the circulating fluid their own necessary ingredients, and as the process is continuous, ever as the blood courses through the capillaries, each member or faculty takes from it the ingredients it requires, and as one withdraws one element, another a separate element in each advancing and returning course, all obtain not only what is requisite to sustain them, but discharge all effete or superfluous matter; these, perhaps, themselves wanted by other parts. Ever during these operations renewed supplies are derived from the chyle.

It is noted by Sir J. Paget that there is often a double relation established between two or more faculties, intimating, as he affirms, that the one is complemental with the

other in relation to the demands on the blood supply, and thus an affinity of action is presented and growth is conjointly associated, as in the various appendages of the integuments, feathers, hair, horns, &c., and the development and maintenance of the genital organs. The same principle is also manifest in the concurrent development and activity of the thymus gland and the air-breathing organs during the body's growth, also of the like harmonies of growth manifested by the thyroid gland and brain, the spleen and pancreas, the embryo and the mammary gland. (*Ibid.* p. 23.) These organs are complemental, and the formation of each leads to the production of some material necessary for the construction of the other.

Sir J. Paget admits that we cannot detect the various ingredients in the blood of the distinct organs, nor even the elements essential for the formation of fibre, and though the theory lacks direct evidence, many facts can only be accounted for by the hypothesis. Thus a great change in nutrition rarely takes place in one organ at a time, but is usually effected simultaneously in two or more parts between whose nutrition there is a manifest and constant connection although there is little or no relation between their external functions. We have also to remember that organic substances are not altogether nourished directly by the blood, some are nourished by imbibition, as the non-vascular epidermis, so also the cornea, crystalline lens, vitreous humour and peripheral part of umbilical cord. In most of these, as in fully formed tendon, a system of cells—the connective tissue corpuscles, described by Virchow, formed apparently of soft nucleated protoplasm—imbibe and supply nutritive material to the more intimate parts of the texture (p. 28). Parts thus supplied by imbibition instead of by capillaries are liable—as the cornea, hair, the articular cartilages, and the various cuticles—to diseases proper to themselves primarily and independently.

The lowest nutritive processes, those by imbibition,

represent only suggestive wants expressed by the local parts in connection only with its surroundings and their growths, as horn, hair, and cuticle are corresponding wholly with the local conditions. The second series of growth processes are joint activities expressed in both call and supply by the capillary system and the heart's action. In the higher vertebrata some nervous force is exercised in the nutrition of all the parts in or near which nerves are distributed as one of the forces that concur in the formation process (p. 28). This nervous influence on nutrition and growth is seen, thus by irritating the nerves passing to the lachrymal and salivary glands, the secretion poured out by the duct is increased and the pressure of the blood augmented so that it traverses the vessels with a greater flow, and provides a larger supply of pabulum for the processes in the glands. No tissue seems to be wholly exempt from the influence of the nervous force on its nutrition. Thus, in the cuticle the hair grows grey in mental anguish or may be wholly cast off. So irritation of certain nerves of the limbs is followed by eruption on the skin supplied by them (p. 31).

Exalted manifestations in parts may be induced by altered conditions. Normally the epidermis has no relation with the capillaries or the nerves, but when the corn presses on the nerve, or when the spur of a cock is transplanted, new conditions supervene. In the one, through the brain, action is brought to bear on the conscious ego; in the other, the increased supply of nutriment obtained from the capillaries in the comb induce enormous abnormal growth. That the organic association of the spur is cast off is seen in the fact that the new spur is developed, while the grafted one carries out an independent self-existence, the same as any supernumerary limb or organ in an abnormal organism.

If we pass from the complementary relations of nutriment to those of repair and reconstruction we, in many cases,

are startled by the manifest evidences presented of special action in the parts and special intervention by associate parts and faculties, as well as in increased energy displayed by the general co-ordination. It would appear that in all cases of weakened power, by injury or total or partial loss, that first the parts remaining endeavour by their own increased activity to recoup the loss sustained either by enlarging or duplicating the parts, or, in association with neighbouring parts, work out new or modified courses of action, or, so far as their natures permit, one faculty or part endeavours to associate the lost capacity to the volitions of its own faculty. Even distant parts are supplemented thus with distinct and new duties, or new co-ordinations are evolved through the common energy. When all other modes of replacement fail then appeal is made to the conscious ego, and, where possible, the mechanical power is sustained by the conscious will.

We will illustrate these individual, groupal, and conscious interventions in deranged or injured conditions by the following reformative modes of action. Sir J. Paget writes:—When one kidney is destroyed the other often becomes much larger and does double work. The process of the change is due, first, to more blood being poured through it, from which the constituents of the urine are separated; secondly, not only is more rapid action induced, but the extra supply of blood thus effected induces the development of more renal cells until the one kidney can fulfil the duties of the two, then the normal state of activity ensues (p. 19). Again, as the cuticle by self-increase accommodates its character to the strain put upon it, so if by disease of the valves an obstacle is put in the way of the circulation, the heart, or one of its cavities, acts with additional force, and to supply this increase of strain it enlarges and is hypertrophied. It may seem strange that a part should have the power of determining in some measure the rate at which blood shall flow through it, but

so it is, and nearly all examples of hypertrophy are examples of the fact (p. 50). Every part deranged endeavours by increased activity to accommodate its texture to the increased work and consequent pressure put upon it. Thus in cases of obstruction the bladder becomes stronger in its muscular coat.

So with regard to the function of excretion. When this is disturbed certain of the secreting glands, as the follicles of the stomach and intestines, may for a time eliminate excrementitious matter; this is analogous to the elimination of foreign matters from the blood by the glands. (*Flint, Physiol.* III. p. 26.)

Wilks and Moxon, in their *Lectures on Pathological Anatomy*, give us various illustrations of reco-ordinate working in human pathology. Thus many of the curvatures and displacements in the spine are induced by the endeavour of the structure to accommodate itself to the special form of tension; so, the carrying of loads produces various such results according as the load has been borne on the head or back, on one shoulder or the other. In some the spine is not curved, but sinks in on one side; a fusion of the vertebræ may also take place (p. 82). So when a muscle is injured or destroyed, it is repaired with fibrous structure, and never by the reproduction of muscular tissue. If such a muscle be put to much use the fibrous structure assumes the consistence of ligament (p. 94).

Reco-ordinate modes of working are often displayed by the actions of the heart. "Many malformations and diseased states of the heart are the attempts of the parts to work under new modes if the normal mode is obstructed. Thus the blood has reached the lungs by the *fœtal ductus arteriosus;* in others, by immensely dilated bronchial arteries. In some cases, when the aorta is obstructed, the pulmonary artery carries the blood from both sides of the heart, the descending aorta being attached to the pulmonary" (p. 111).

Intestinal injuries and derangements are equally self-

sustaining, and self-accommodating. Thus in displacements, as hernia, the parts endeavour to work under the induced conditions; other displacements may arise from adhesions of the intestines, in early life, to other parts, such displaced parts twist upon themselves or form loops. Intus-susception is the invaginating of any portion of the digestive cavities. In this way a piece of the bowel, of the ileum, even the cæcum and colon may be invaginated. A stricture then takes place, separation ensues, and the included and cast off portions may be thrown out. In one case, a child of eight years, after eleven days of obstruction passed the cæcum and ascending colon, and recovered (p. 419).

In like manner under cirrhosis, a disease of the liver, it betimes, as with the heart, produces a compensatory or collateral circulation. This is due to the systemic veins being enlarged through portal obstruction. An accessory vein has thus been produced as large as the portal vein itself. (*Lectures on Pathological Anat.* p. 467.)

In all these purposive modifications which have no connection with the central ego, the law of variation is affirmed, the origin of acquired characters is explained, and more, the true relations of the parts to one another is not only explained, but their individuality is expressed.

In the many interactions in the co-ordinate vitality, whether represented in a multicellular or unicellular organism, the structural attribute of sympathy implies a presiding power that anticipates in structure what consciousness fulfils in mental arrangements. Thus, A. Wilson writes:—"It may be said that every part of the human body is capable of sympathizing with the rest, for no part can admit of having the sense of feeling excited to the height of pain without the whole frame also suffering an uneasy sensation. But there are likewise parts or organs which are more intimately connected with and dependent upon each other than upon the rest of the body, constituting a specific or peculiar sympathetic affection. Thus when a

person is affected with headache, a disordered stomach is often remarked as the cause. A pregnant woman has nausea and vomiting, irritation in the uterus is immediately admitted as the cause, affecting the stomach by sympathy." (*Morbid Sympathies*, p. 17.)

On the action of sympathy in the human organism, Holmes and Tulke write:—"What is the meaning of the ordinary sympathetic diffusion of imflammatory excitement in the body? When, to make an issue, we burn a piece of skin the size of sixpence, why do the surrounding textures to the size of a dollar show they have been disturbed, and why do the nearest lymph glands become swollen and sensitive? So, why by the impaction of a splinter of wood, does not the inflammation confine itself to the particles of texture which are in contact with the wood, why does it go on spreading hour after hour, and why two feet off do the lymph glands in the axilla swell, and grow painful and tender, and not unfrequently suppurate? There is but one conceivable course or vehicle of influence, the fact that one of them naturally received material from the other, namely the redundancies of local exudation, which at last return as lymph to the blood. Hence we have the sympathy of the lymph glands in the inflammation of parts when they received the lymph; so we have the sympathy of the liver with the intestinal pyæmia; the sympathy of the lung with the caval pyæmia; the sympathy of numberless parts with aortic pyæmia, the sympathy of the entire blood, and thereby of the entire body, in every larger inflammatory excitement, and the facts of gonorrheal and ophthalmic contagion apparently show the same power may operate beyond the first organism." (*System of Surgery*, I. p. 27.)

On the general principles of sympathy, Jackson writes:—"Sympathies arise from the readiness of any part of the body to fall into action without any positive cause operating upon it, but solely in consequence of some action, affection or impression having taken place in another part of the

body. Sympathy is similar when a part has any affection or action, and another part, not apparently connected, has an affection or action similar. There is sympathy between the brain, and the parts of the body having a common function and constitution are affected either from some condition of the brain itself, or from the same first taking place in those parts. The organs of voluntary motion, the stomach, the heart, and circulating system, and in particular the cutaneous extreme vessels and the uterine, are in a peculiar manner under the influence of this mental and reflex sympathy." As illustrations of the principles of sympathy, he further writes:—"The whole system sympathizes with the stomach variously. When the stomach is stimulated in one way, a sweat shall break out on different parts of the skin; when in another way, universal debility shall be produced, with pain in the head. When the head aches we have sickness at stomach. An external injury often causes sickness. So fear will make the hand shake, will produce laxity of the bowels and diarrhœa, or it will affect the bladder with an involuntary flow of urine, or affect the eyes so as to cause tears. There is the same sympathetic relation between the tongue and the mouth, and the constitution, when in want of fluid, as between the stomach and the constitution when in want of solid aliment. If great mischief is done to the liver by inflammation, the shoulder sympathizes in proportion. The more violent the inflammation of the testes, the greater will be the pain at the back. Affections of the stomach often produce considerable sympathetic operations in the skin. The left arm sympathizes with a diseased bladder, and the left hand with abscess on the brain." (*Treatise on Sympathy*, pp. 10-60.)

A very voluminous synopsis of the interactions between the co-ordination as a whole, or between the parts in sympathy one with another, is contained in Dr. R. Richardson's *Nature of Life*. He first takes note of external causes of

diseases, and their interaction as remedies; and in this series intimates the various diseases affected by light and darkness, by fatigue and rest. So for many diseases, heat and electricity are both causes of physical derangement and remedial agents. Of internal sympathetic relations he shows how disease in one part causes disease in another part. Thus, myelitis and paralysis result from diphtheria, pleurisy from renal disease, pericarditis from rheumatism, carditis and pericarditis from scarlatina, œdema of larynx from erysipelas of the face, spinal caries from whooping cough, ulceration of duodenum from surface burn, lepra from muscle fatigue, blindness from hysteria, tic-douloureux from ulceration of ilium, neuralgia of the heel from piles, and angina pectoris from dyspepsia. Under the head of "Irritation a cause of disease of distant parts," the cases are so numerous that we can but quote a few. Thus, laryngitis has arisen from a bean in the ear, pneumonia from injury to the brain, arachnitis from gastric irritation, nephritis from external injury. Gout has arisen from cessation of bronchitis, even from suppressed evacuations, catarrh from dentition, diabetes from mental strain, from a blow on the head, from a colloid tumour on fourth ventricle, and from division of cervical ganglion. Œdema of lungs from injury to pons varolii, tuberculosis of lungs from cotton thread under the skin, ulcers of the toes from injury to the sciatica, apoplexy from cessation of gout, hysteria from ovarian tumour, asthma from eczema, aphonia from injury to finger, paralysis of epiglottis from pressure on abdomen, palsy of leg from injury to right eye, and mental depression from gastric derangement.

Under other sections, he shows the many cases in which the emotions have caused diseases, as grief, joy, fright, anxiety, mental agitation, chagrin, surprise, and shock. These range from mere local irritations mentally produced, to general functional derangements, catalepsy, and death.

Nor are the emotions merely causes of deranging influences, so influential may be their sympathetic actions on deranged members and functions, that though at the time under various abnormal conditions, the mental excitation may recoup the co-ordination and restore the diseased or deranged parts to the normal state. Thus, as he shows, developed emotion has cured ague, gout, scurvy, goitre hysteria, asthma, neuralgia, aphasia, palsy, and hypochondriasis.

In all cases, Dr. Richardson's work has references to every one of the influences we have quoted, and these, if carefully examined, intimate that while in many instances we may follow the line of control in the direction of the nerves, and in other cases in the flow of the circulatory system, that it is certain that the parts have other means of conveying their influence than by the brain and heart courses, of which we know no more of the principle that influences them than we do of the power that directs the migratory volitions of birds.

Such are some of the various modes by which the two great processes of nutrition and structural reparation aid the co-ordinate working of the organism. Ever, as a good citizen, the part itself depends primarily on its own exertions, and not only bears the burthen of its hourly duties, but whenever a derangement occurs in its condition endeavours, by strenuous activity, to restore the due action or fill up the induced gap. When, however, the conditions fail to render such help, self-sufficient the disturbed parts call upon the neighbouring faculties to aid them, and maybe supplement their own exertions by a partial transfer of duties. What the friendly relations of neighbours may not suffice to perform then necessitates an appeal to the communal authorities, and the various subcentres appeal to the liver, heart, or brain, or should urgency become expressed, one and all, through the preceptive senses and

the syncope of failing energy, call on the conscious ego for its immediate intervention, or, through it, on aid from other personalities.

There are other forces at work in every personality, however low may be its status in the scale of organisms. It is not only necessary that the structure should be supported and sustained, it exists for duties, interactions, and relations, with its own sub-personalities and, according to its organic status, with other personalities. There are both moral and intellectual proclivities in every organism and in the various parts of every personality. The scale of feelings and perceptions are manifest not only in the range of outputs from the monad to the man, but in the series of interactions, equally individual and conjoint, in the unicellular organism, as in the multiple of many parts, faculties, and emotions, now present only in growth's unconscious expression, not only in organic, but in mental impulses, feelings, and aspirations. According to its status each organism displays its own moral and intellectual nature, consciously or unconsciously expressed, and of such relative fulness as its co-ordination requires. It may seem grotesque to speak of the moral nature of a bacteria, the intellectual energy of a cell, but even those elementary co-ordinations could not exist unless such powers, consciously displayed in the higher, unconsciously in the lower, were ever present.

The simplest unicellular organism, though its powers are undifferentiated, must maintain in their conjoint relations all the necessary energetic activities requisite to sustain the low co-ordination, and all that we know of the moral relations necessary for the regulation of the associate principles, or the mental powers to give them worth, are ever at work in the humblest monad. They aid growth in its many manifestations, they supply all needful wants and repairs, and sustain the co-ordination by inducing the necessary affinities that in higher organizations we describe

as mental and moral. Growth implies a co-ordinating mind-power.

Such faculties and powers, ever persistent in the lowest vital cell, are not lost when by common position and intent cells are brought into mutual interrelations one with the other; then, as with the enlarged powers of man in community to man isolated, actions ensue proportionate to the enlarged conditions, and mutual interrelations follow not possible with solitary like organisms. How beautifully and systematically such powers may be applied we have seen in our observations on the co-ordinate action of the parts in contributing to the necessary repairs in the co-ordination. Operations analogous to those Huber so interestingly presented as being manifested by ants and bees for the common good, if the home establishment was deranged, are equally manifest in the corresponding volitional activity displayed by the muscular cells, or the like parts in connective tissue, and to right the bony structure, when the organism is injured. They may not appeal to edicts, they may not control by suffrage, no newspaper is published, no command is heard; there is neither eye to mutely speak, nor hand to control, no expression of feeling to influence, or consciousness of reward to induce response, and yet all that skill, tact, and willing action can do to aid in the reintegration ensue equally as well as if committees of social safety, armies of medical experts, and a due supervision of police, did their best to restore the harmonious action of the parts. We have not yet learnt to note that these sometimes apparently almost passive recuperations equally express moral and intellectual interrelations, as do the more grave and exalted mental expressions present in federal and state government.

In mere machines power may be conveyed to separate and distant parts by sundry appliances. Even in the higher organisms power is manifest by definite and distinct working parts, an ample series of ducts and valves regulate the

course of the blood, and of many special secretions, and continuous and anastomosing nerves offer the necessary modes of transit for the energy we term "nerve force"; but while these special appliances convey nutriment and general energy throughout definite lines in every co-ordination, there are other processes, other modes of action, other routes and principles of affinity, worked each in special detail for the transmission of the distinct interactions and influences of all the parts constituting the co-ordination. Such routes of intercommunication traverse the personality in every direction, they cross and recross ever, but, like the planetary orbs and the flight of birds, they leave no visible impress. No anatomist can follow these lines, or trace their courses. Some are only mere interactions through adjacent cell-walls, as neighbours communicate across separating fences; others are always tending, like the summer foot-paths, across fields to the parish church. We may not follow others, as they often course to neighbouring villages, through gaps in hedges, or by leaping brooklets. As the relations of every village may thus be kept up with church and meeting-house, post, and every special associate object, by endless undefined routes, as well as with the county town and metropolis by the great highway, so ever innumerable interrelations, by undefined routes, are proceeding in the organism. These are presented not only in the complemental cells of each part on the general supply, but the many thousands of special wants, special helps, and special supplies and influences, passing to and from every part in an organism.

If we take note, first, of individual activity in its lower phases we observe that, as in isolated organisms so in the like constituted parts in the higher organisms, special functions are performed in like modes, excited by like influences. Even in the human organism ciliate action is manifest, as with the free infusoria; so likewise the plasma flows, blends, and separates, into granules, and the amœboid

actions of the blood corpuscles are in no way distinguishable in the expression of emotions from those presented by free amœba's. Gant, *Science and Practice of Surgery*, writes:—"The emigration of the leucocytes through the walls of the capillaries seems to be that the cells possess an inherent vital activity, that of protoplasm, and resembling the mobile power of the amœbæ, and that the capillary walls also possess the same contractile power of protoplasm. Thus the capillary vessels, the blood corpuscles, white and red, are apparently alike endowed with the power of amœboid activity." (I. p. 58.) More, so great is their self-inherent vital tenacity that should they have, in the process, been so attenuated as to lose all shape, by self-integration each cell is enabled to regain its ordinary configuration.

In like manner as the cells in the organism may exhibit the free volitions of the unicellular organisms, so may they combine, conjugate, or fuse together, as is the case with unicellular organisms in a transition state. Every process to form texture proceeds in the more complex organization as in the more simple. Have we not the permanent stages in certain forms of phylogenic evolution maintained also permanently in local parts of the human organism? Thus a solitary nerve-ganglion is the first stage in nervous consolidation in an invertebrate, this, through differentiation, may evolve in higher forms into two or more ganglions, until we find, as with insects and crustacea, that each segment of the organism has its own centre of action expressing not only volitional but mental and emotional powers. So, many parts in the human organism still retain these secondary brain powers notwithstanding that the greater nervous centres constitute the highest controlling influences. As Hermann writes (*Human Physiology*, p. 518):—"Many organs contain in their substance ganglion cells, by means of which their functions are in part regulated. Such organs are especially the heart, and, according to most authors, the stomach, uterus, &c. The ganglia of the

heart possess a rhythmical automatism in virtue of which isolated fragments of the heart pulsate themselves. In addition co-ordinating arrangements are present whereby the various segments of the isolated and uninjured viscus contract in regular sequence. In addition the rhythm is under the control of accelerating and retarding nervous fibres in sets from the cerebro-spinal organs." When the action of the great central force is stayed and the co-ordination as a whole ceases, these local parts endeavour to sustain their special vital phenomena. Thus the movements of the intestines become very active immediately after death, and "the heart removed from the body still beats for some time, in cold-blooded animals for days, in warm-blooded as long as the supply of oxygenized blood is provided. Its movements must in part be due to a mechanism situated within itself." (*Hermann*, p. 106.) He also writes:—Intestinal peristaltis is another example of automatic co-ordinate movement, brought about by parenchytamatous ganglia. Accelerating fibres also reach the intestines. (*Ibid.* p. 518.)

Transmitted action may follow the lines laid down by the nervous routes, or they may work in independent courses. The many modes in which pain is related to other parts than where felt, intimate not only ranges of action but association by sympathy. Thus Gant says:—"Pain in the inner side of the knee may emanate from inflammation of the hip-joint, in the glans penis from cytitis, in the testicle from nephritis, under the right shoulder blade from hepatitis, under the left scapula from gastritis." (*Science of Surgery*, I. p. 63.) So also severe pain on the inside of the knee from aneurism, of the femoral artery in the thigh, even continuous pain in the thumb and fingers resulting from shot-wound on the arm. (*Ibid.* I. p. 579.) In like manner stricture of the urethra is expressed by great pain and lameness of the foot, and on the bladder being relieved the pain abated, and the two conditions were

jointly manifest. (*Ibid.* I. p. 580.) So pain in the foot was due to internal piles.

The interrelations of the various parts of an organism find expression in sympathetic reactions, and these, while often following the tract of a nerve or the course of an artery, may equally act by contact, by attraction through other parts, or by some as yet undefined mode of intervention. Thus lesions of the spinal cord and hemiplegia of cerebral origin are often rapidly followed by disease of the joints; and lesions of certain parts of the encephalon, as the optic thalamus corpus striatum and pons, are followed by ecchymosis of the lungs, pleura, and stomach. Division of both vagi in the neck is followed by serious disturbance of the functions of the lungs and other organs. Section of the sciatic nerve leads, in many instances, to ulceration of the foot. (*Carp. Hum. Phys.* pp. 855, 856.) We have the case of a pricked forefinger not only affecting generally the nerves of the arm, but producing dimness of sight, pain in the stomach, nausea and vomiting, and these several symptoms were all cured by amputation of the finger. So cutaneous eruptions result from injured nerves. Hysteria has been caused by a wound, anæsthesia of the arms caused by a blow at the back of one knee, and inflammation of one side of the brain caused by injury to a nerve on the other side of the body. (*Holmes and Hulke, System of Surg.* II., p. 188, &c.)

Special organic action is effected by special mental emotion. Thus grief excites the action of the lachrymal glands, the saliva flows at the thought of food, and its supply immediately stimulates the flow of the gastric fluid. So under mental emotions the secretions of the skin and other secretions are excited. Fear often induces diarrhœa and incontinence of urine, anger affects the functions of the liver, grief disorders the stomach, sudden terror without hope produces an almost complete palsy, and hope, when the attainment of the object is near, affects the organs of

respiration and causes a quick and powerful distribution of the blood throughout the whole body. (*Crichton*, II. p. 137.)

Not only may special influences from the consciousness act specially on various parts, but like-influences on the members or faculties of different men result in very different disturbing effects. With some persons like-emotional or other discordinating influences act almost exclusively on the pulmonary functions, with others on the intestinal mucous membrane, and with some on the heart or liver. Even the interchange of disturbing influences is most remarkable. We have on record cases of gout being converted into mental disorder, affecting the memory, or it is converted into insanity. So gout is changed by transfer of derangement into epilepsy, and paralysis has disappeared when gout manifested itself, and an attack of phthisis has been changed into mania.

Every member and function has not only its normal state in association with the general co-ordination, but any part or function may manifest special derangement, local madness. Savage (*Insanity*, p. 89) writes:—"Madness is not confined to the intellect alone, but there might be insanity of a limb or stomach, in fact, there are cases in which disordered nervous function is exhibited by some motor or visceral disturbance.. One hears periodically of cases of insane arms, of a patient moving his arm up and down, as if using a hammer, hour after hour at the rate of forty or fifty strokes a minute, and continuing the exhausting process for hours."

Central derangement may affect any local function or part, or such may exhibit, as in the case Savage gave, only local mania, influencing the local nerve alone; so palsy may affect one nerve only or but one portion of a nerve. As general mania accrues from general inflammation, so local mania may arise from local inflammation, and the part, as far as it can manifest mental derangement—so far will it

express local mania by deranged exaltation and local melancholia by atrophy. Disease in a local part may restrain its influence to that local part, and that alone express mania, or it may reach the central consciousness and induce common insanity. Some local insane exaltations coerce even the conscious ego not merely by the influence of pain, but so commanding the general energy that it is all expended under the local form of expression. There are mad self-destructive influences evolved in the generative parts that induce appalling forms of local mania in which the whole co-ordination ultimately becomes involved.

Goethe, according to Dr. Laycock (*Mind and Brain*, II. p. 244), said:—"Every living being is not a unity but a plurality. Even when it appears as an individual it is the re-union of beings living and existing in themselves." These beings have been traced through numerous stages from the homologous plasma, and have become specialized more or less in the individual cell, and such cells have by affinity coalesced into tissues or organs. Each cell was primarily an individual, but as each mass was grouped into an organ or arranged as tissue they ceased to prominently exhibit their individual powers; some were combined or exalted by fusion, others had become evolved into other faculties so as to produce their special activities. Yet while the parts thus combined sacrificed in some measure their individual powers to the common centralized expression, ever they retained an individual hold, a lien on the power thus transferred. As Foster observes, "Every tissue retains somewhat, as far as concerns itself, of all the special energies of the protoplasm. All have some contractility, excretive, respiratory, and assimilative, powers. They never lose any of the primary powers though they are individually specially exalted—in each this is the universal law of compensation."

The organic sensations express some of these reserved

and retained common forces, all is not surrendered to the central consciousness. On these, Todd and Bowman observe, that under the name of common or general sensibility may be included a variety of internal sensations ministering, for the most part, to the organic functions and to the conservation of the body. Most parts of the frame have their several feelings of discomfort and pain. In many of the deeply-seated organs no strong sensation is ever excited except in the form of pain as a warning of an unnatural condition. The internal sensations of warmth and chillness, of hunger, thirst, and their opposites, of nausea, of repletion of the alimentary canal and genito-urinary organs, and of the relief succeeding their evacuation, of the privation of air, &c., with the bodily feelings attending strongly excited passions and emotions, may be mentioned among the principal varieties of common sensations."

In the phylogenic evolution of the digestive apparatus, and still more strikingly in the co-ordinate actions of the ganglion in the lower types of animal life, and the gradual aggregation of the various brain parts in the higher types, we note how cautiously and gradually the association has been centralized; there has been no blending of powers, no fusing of parts, but each retains its individuality in substance and action. Truly, as Ferrier says, "The cerebellum would seem to be a complex arrangement of individually differentiated centres, which in associated action regulate the various muscular adjustants necessary to maintain equilibrium and steadiness of the body, each tendency to the displacement of an equilibrium round a horizontal, vertical, or intermediate axis, acting as a stimulus to the special centre, which calls into play the antagonistic or compensatory action. Hence every form of active muscular exertion necessitates the simultaneous co-operation of an immense assemblage of synergic movements throughout the body to secure steadiness and maintain the general equilibrium." (*Ferrier, Funct. of Brain*, p. 199.) So in the

cerebrum, as far as our information extends, each perception, power, and all the higher mental centres, though associate are separate, and the conscious ego is no more a fusion of mental powers than it is a fusion of physical faculties. From the highest to the lowest no cell in the organism has wholly foregone its primary series of powers, even muscular fibres are capable themselves of being directly stimulated without the intervention of any nerves. (*Foster, Text Book of Phys.* p. 56.) And it is now generally admitted that the conveyance of food particles, such as fat globules from the alimentary tract into the absorbent channels, is effected by the agency of amœboid cells. (*Lancet,* 1889, II. p. 634.)

CHAPTER II.

Alternate and Multiple Personality.

Before we can satisfactorily realize a full concept of the human personality in its relations with its many subordinate elements, we have to consider the phenomena occasionally presented of its manifesting a dual and even multiple conscious personality. We know there are occasionally human organisms born, in various modes blending the subordinate parts of other human organisms, or even consisting of two distinct human personalities, adherent as if grafted together, and which, in fact, is their origin. In some cases these have been separated by the surgeon's knife, and became distinct human beings. But it is not of this class of subjects, which associate men with the siphonophora, that we would now speak, but of those special discordinations of the mental phenomena in a human being which have suggested the possibility that the conscious ego is not one indivisible entity, but an aggregate of two or more entities. We may remember that the sexual evolving organism, below which we know only of energy, not consciousness, had its origin from the fusion of two asexual organisms. We know also that the consciousness is a form of growth, and that its very essence, though founded on perception, can only be expressed in its capacity to retain

perceptions. Hence it follows that a being devoid of memory only expresses growth energy, it has no personal consciousness. It exists only in its immediate perceptions, has no link with the past, no perception of a future. We are aware that it is possible for a once sentient human being to exist days and even months in this state. The unconceptive functions, under these conditions, will still fulfil their parts; all the processes of growth due to organic energy, will still continue their respective relations to the organism, and without conscious perceptive power being presented, automatic, perceptive, and volition activities intimate that the non-reasoning capacities retain their essential energies. Hence the active presence of the conscious ego is not requisite to sustain the vegetative functions in a human vitality, or even to sustain and support the mediums of the higher organic and the mental functions.

Starting our enquiry from this basis of unconscious humanity, which through growth powers becomes a conscious and intelligent human being, linked to the past by many thousand mental impressions due, in the first instance, to its perceptive powers, and subsequently to its thought transfigurations. In the ordinary course of life, as there was growth in function and faculties, even in the perceptions of the past and the concepts of the future, so there is a corresponding series of declinations: functions, faculties, and powers, cease to advance; then, after remaining for a time in a state of abeyance, they gradually come to live on the past; the growth energies cease, the capacity to renew waste parts is lost, the vitality feeds on its stored up energies, gradually all powers and functions are enfeebled, but usually, ere the mind can decline to the absolutely aconscious state from which it emanated, kind death closes the mortal scene.

This, though usually the destiny and end of the conscious ego, is not always the course in which it presents itself.

Through some discordinate influences, mental or physical, the unity of the personality is dissevered as a continuous series of associate links. A more or less sudden cataclysm reduces the co-ordination to an abnormal state, in which, though mature, the organism becomes aconscious and presents only the lower asexual attributes. This state may last for a longer or shorter period, but usually after an interval the human being is restored to its previous normal state. Betimes, however, the sudden disintegration of the co-ordination ensues in inducing sundry abnormal states, often specially characterized in the changed presentation the conscious ego exhibits. Normally the personality during its vital existence passes, as we have said, through a series of growth changes, in which its unity is never lost. In sleep it may become temporary cataleptic, and then it has no cognizance of events or passing time, but on awaking its nature is identically the same as when it went to sleep; even the thought half-worked out on going to sleep may, on awaking, resume the consideration of the same ideas. Generally in life there is no break in the actual continuity of the one evolving and gradually solving personality.

Various accidents and organic disease disintegrations may break and modify the normal personal continuity. As Wigan writes:—We know by innumerable examples that a sudden physical shock or a blow on the head will reduce the healthy and acute brain of a profound scholar to a state wherein he has all the mental characteristics of childhood. In other cases a similar accident may obliterate portions only of his acquired knowledge; he may lose one language but retain others, or he may lose all he has acquired, and have to begin acquiring knowledge as from the status of a babe. Like effects may arise from moral shocks, and the brain may lose one or more of its functions, one or more portions of its acquired knowledge. Afterwards, if the deranging cause can be removed, the vitality being con-

tinuous, the dormant only stores of ideas may revive partially or to their full pristine vigour.

Without any violent shock, physical or mental, like changes of personality may ensue, even in sleep and states of somnambula hypnotism, the personality may be altered in its knowledge of things, its powers of action and faculties, even in self-identity.

The following is a case in which all acquired knowledge, save the automatic faculties, were lost. A young woman fell into the water, and after being brought to, had a fit, after which her physical and mental faculties were changed, and her only mediums of external communication were the senses of sight and touch; she could neither hear nor speak, smell nor taste. The sensibility of the body was exalted, the slightest touch would startle her. She had no knowledge of anything about her, not even of her mother. Her memory and the power of associating ideas was quite gone. Wherever she was placed there she remained through the day. Her appetite was good, but she required to be fed. In a few days, by teaching, she would hold the spoon and feed herself till all was eaten. She manifested no desire for food or drink, and her urine and fæces were voided unconsciously. Her life to herself was one continuous blank. From the fit she had a restless desire to pick at things with her fingers, and she pulled anything to pieces. Then she began to arrange them in patterns, and made roses and other figures. From this she advanced to cutting paper and so forth with scissors into patterns, and doing patchwork, but she had no remembrance of what she did day by day. She could neither read nor write, and all accomplishments were forgotten. Gradually all her powers returned, and, after another fit, all her faculties were restored. (*Lancet, Novem.* 1845.)

In some cases there is but one mental change. Through some cause the previous consciousness of things pass away

or become dormant, and the individual recommences to learn the name and nature of ideas, objects, and emotions, as if it were once more a child, save that the automatic capacities of the faculties are fully developed and capable of at once re-acquiring each item. It may happen that the abnormal state is limited to a more or less definite period, at the end of which the normal conditions revive. In some instances between these two conscious states there occurs a period of cataleptic unconsciousness. In the *Journal of Psychological Medicine* is the case of a lady subject to attacks of convulsions, delirium, and hallucinations, such as at a former period would have been ascribed to supernal agency. "When she recovers her senses she knows nothing of what passed during the attack, when she is again affected she recalls the former attack with surprising fidelity. At these times the senses seem changed, she has special ones, she hears certain words and not others, she recognizes the portraits of persons and not the persons themselves. She takes up the thread of ideas from one accession to another; as the attacks succeed each other with great rapidity she awakes doing things which she cannot explain. When the attack is on, she neither sees nor hears anyone, speaks to herself, recites, runs, sings, laughs, she confounds objects, loses certain senses and supplies their place by others. She is at times deprived of the faculty of pronouncing diphthongs, seeming like a child learning to read." (XI. p. 658.)

An instance of a single break in memory continuity is given by Louer-Villermay of a young lady who, after her first confinement, lost all memory of the time that had elapsed since her marriage, although she remembered the details of her previous life. Her marriage itself was forgotten, and she repulsed both her husband and child. She has never since been able to recall that period of her life. (*Ibid.* XII. p. 27.) In the *Journal of Mental Science* there is the case of a lady who lost, through hysterics, the conscious-

ness of twenty years of her life, her youth, courtship, and marriage, and had again to recommence the education of her senses, emotions, and intellect. She had lost and never regained any conception of her previous relations to society or her family, and never recognized her husband. (XIX. p. 524.) Dr. Abercrombie records a like case in which a lady lost ten years of her life, and another of a gentleman who lost all memory of the incidents that occurred during four years of his life.

Of the successional repetition of two distinct states in the personality we have many records, each state being continuous, however long may be the interval before its resumption. The two distinct threads of life are often taken up at the very stage in which they stopped, even to the completion of a volition or the expression of a sentence left unfinished. Thus Forbes Winslow gives the case of a young lady, very accomplished, who fell into a profound sleep, and on awakening it was found that she had lost every trait of acquired knowledge. Her memory was a *tabula rasa*, all vestiges, both of words and things, were entirely obliterated. It was found necessary for her to relearn everything; she acquired by new efforts the arts of spelling, reading, and writing, and calculating, and gradually became acquainted with the persons and objects around her, like a being for the first time brought into the world. After a few months, another fit of somnolency restored her to the state she was in before the first paroxysm, but she was wholly ignorant of the series of memories of what we may term her second babyhood. During the four years she underwent periodic transitions, nothing occurring in one state being known in the other. In the one state she possessed fine powers with the pen, in the other she wrote awkwardly. (*Obscure Dis.* p. 335.)

Professor Silliman described the case of a lady in New England subject to paroxysms which after a time left her and she was restored to her former state. It would often

happen that she would stop short in the midst of a conversation, and then, the change having come over her, she would commence a conversation on some other subject not having the remotest connection with the preceding one, nor would she advert to it during the paroxysm. When she became natural again she would pursue the same conversation in which she had been engaged during the lucid period, beginning where she had left off. To such a degree was this carried that she would complete an unfinished story, or sentence, or even an unfinished word. When the next paroxysm came on she would combine the conversation she had been pursuing in her preceding paroxysms, so that she appeared as a person might be supposed to do who had two personalities, each occasionally dormant and occasionally active. (*Symond's Sleep*, p. 24.)

One of the most marked features of double or, as we should prefer to call it, alternate states of consciousness is not that each state only manifests its own distinct set of memory impressions, but that the secondary attributes—moral, intellectual, æsthetic, and emotional—often vary so materially as to present the essential characteristics of distinct personalities; and more, that through their continuous influence there are instances in which the physical expression presents other than its normal aspect. These modifications have so altered the moral man that he has become dishonest, lewd, a liar, and cheat; in like manner the cheerful have become morose, the humane, cruel. In the new state a man may lose any capacity to do, any accomplishment, any taste, or sentiment. Again, faculties and powers may be presented not observable in the normal state. Thus, as is common in the secondary state of the individual co-ordination, a taste for music, power of composition, and other special faculties, may be evinced in an exalted state. There are alternate states that often are only marked by alternate stages being expressed of a

single faculty or power. Much that is false, cruel, and criminal, in human annals is only the alternate manifestation of distinct states in a single faculty. Few of us are always the same, and the varying influences in our two brains affect the feelings, intellect, and moral proclivities by alternate manifestations.

In the *American Journal of Insanity* is a case in which the mental alternations lasted for eighteen months. The abnormal condition coming and going daily for that period, and then the normal state was renewed for the same period. In the one state, daily occurring, the man would neither eat, sleep, nor walk, but continued incessantly turning the leaves of a Bible and complaining piteously of his misery. On the intermediate days he is, comparatively speaking, quite well; enters into the domestic duties of his family, eats heartily, walks out, transacts business, assures everyone he is quite well, and appears to entertain no apprehension of a return of his complaints. He never remembers in the one state what occurred in the other. (III. p. 148.)

The same publication has the case of Mademoiselle X——, who, for fifteen days, has all the symptoms of profound melancholy, and then, on a sudden, mania occurs, and continues for the same time. When the period of depression occurs she is a victim to sadness, which she cannot overcome. Her face has the appearance of suffering, her voice is weak, her motions languid, soon all these symptoms increase, and she remains immovable and mute. Every effort to arouse her is painful, even the light of day fatigues her. With all this she is conscious of what is passing, understands questions put to her, but answers slowly and in monosyllables, with a low voice. During all this period she labours under sleeplessness, want of appetite, and constipation; the pulse, small and low. After this has continued for a time it ceases suddenly during the night and is succeeded by high excitement; the countenance becomes animated, conversation brisk, the motions rapid

and sudden. The vivacity of her mind is such that she is continually making epigrams. After fifteen days a period of natural calm returns, and she recollects all that she has said during the period of active excitation, gradually recovering her normal habits. This state lasts from fifteen days to two or three months, to be succeeded by like periods of melancholia and excitation. She thus presents three personal states: the normal, the melancholy, and the excited. (*Ibid.* XI. p. 231.)

Betimes in cases of insanity there are the same phenomena of two distinct conscious states. "A Presbyterian minister, in his pseudo-lucid period, was polite, unassuming, unobtrusive, a perfect gentleman, and pleasant companion. In the other condition he was egotistically obtrusive, claimed delusions of inspiration, was given to very loud talking, and had marks of insanity in his manners, his letters displayed unnecessary capitalization and italics, with a marked superabundance of adjectives and attempts at alliteration. (*The Alienist*, IV. p. 287.)

The double personality, with the alternate revival of the two distinct series of memory, is a common characteristic in those subject to somnambulism, it is also manifested in induced hypnotic states. Bailif mentions a woman to whom, during her provoked (hypnotic) state, it was announced that her mother was dead, notice of which had been kept from her. She was very sadly impressed by the intimation, but on awaking she remembered nothing of what had been related to her, or of the sensations she felt. (*Alienist*, III. p. 167.) It had been noted that some of the hypnotized had forgotten in their waking state all that had related to their provoked sleep, but they presented afterwards the singular fact of remembering it very well when the sleep was again induced in them. Thus Richet put V—— to sleep, recited to her some verses, and afterwards awakened her. She had no remembrance of them. Being again put to sleep, she perfectly recollected the verses which had been

recited to her, but on awaking the second time, she showed she had forgotten them. (*Ibid.* III. p. 173.)

As further expressing varied presentations of the personality by one individual, we quote the following:—"A youth, the son of a London vicar, subject to cataleptic hysteria. In the one state he exhibits a child-personality, in the other he would continue for days leading an entirely separate existence, not recognizing friends or relatives, or even the way to his own bedroom, and taking no notice if addressed by his own name, and writing letters with another signature. Always imagining himself arrived at middle age, and alluding to incidents of his imaginary youth, which teemed with echoes of his past reading. He would continue for hours playing games of skill with almost preternatural dexterity; he would repeat to the air pages of poetry, and play and sing in a wild, original manner, of which he was incapable at other times, quite unconscious of the presence of others, and impervious to any interruptions. In this state he continued for a week at a time, going out to dine with old friends whom he treated as new acquaintances. He always spake of his parents as in a far Eastern country, and of his father and mother simply as kind hosts. Suddenly he would fall to the ground in convulsive agony, and a little water poured upon his lips would cause him to get up, talking on the very subject of conversation he was referring to when he was first seized with the fit, and devoid of all memory of what had occurred in the interval. He was cured by a sea voyage. (*Procee. Psy. Res. Soc.* IV. p. 230.)

"In the classical cases reported by Azam, the patient, in one mental state, was dull, apathetic, and little more than an automaton, showing that it was a condition in which some of her mental faculties were suspended. A Kentucky farmer, twenty-three years old, was accidentally struck on the head with a hammer. He was unconscious for several hours, but recovered, and seemed as well as ever. He

married and had children, but eight years after the blow he began to show signs of insanity. He was trephined, and his mental faculties were completely restored, but the whole ego, since the blow on his head, were a complete mental blank. He did not know his wife or children, or any of his late associates." (*Science*, VII. p. 311.)

All are familiar with cases in which, under hypnotic influence, the personality was changed. The same influence may induce a new class of phenomena when the personality is in a discordant state. A young man, suffering from hysteria, had an attack of amnesia lasting for a year. There was entire forgetfulness of the past, and a change in his character and demeanor. This state could be artificially changed into a third state by hypnotizing him, after which he would return to his second or abnormal state. (*Science, Ibid.*)

In the *Philosophy of Mysticism*, several cases of versatile personality are recorded. The Marchese Solari spoke French, in Venice, in her childhood, but afterwards forgot it. During a fever she forgot her late acquired Italian and spoke in French, after her recovery she forgot her French and spoke again in Italian. Schubert gives the case of an apprentice who, in one state, was a paterfamilias with a wife and child, in the other he continued as an apprentice. Bertrand's *somnambule* had three different states besides the waking one; in the latter she knew nothing of the others, but her somnambulism embraced the two other states. A woman, who in her normal state was serious, reserved, and industrious, in the abnormal exhibited unrestrained hilarity, heightened imagination, and coquetry, remembering in that state the memories of both states, though in the normal she had no knowledge of the abnormal. Gmelin describes a patient who, in her change of consciousness, took herself for a totally different person, a French emigrant, and her parents for sympathizing friends. Julia had four different states, each of which had its own memory

and its own life, connected with the similar one preceding. News which she had in one state, interested her in a high degree when it was repeated to her in another. Dr. Steinbeck mentions a cretin who in his normal state was idiotic, deaf and dumb, but in a clairvoyant condition, he spoke clearly and with intelligence. A young man from a blow on the head, had attacks of insanity and lost his memory, knowing nothing of what he had known an hour before. In the magnetic crisis insanity ceased, memory returned, and he knew the events of his life. (*The Philos. of Mysticism*, II. pp. 74-78.)

There are a certain class of neurotic individuals whose co-ordinate affinities are so tremblingly on the balance that the smallest incident destroys the equipoise or starts a new co-ordination. It may be an emotion, a blow, a slight shock of any kind, a suggestion from within or without. Such individuals are especially amenable to the influence of any exciting causes, any forms of suggestion. Hence they are powerfully affected by the action of another's will if in affinity with their own. Hence the controlling influence of lover, priest, and kin, and, still more remarkably, that of the hypnotizer. The last often has only to give a look, speak a word, and the subject at once presents a new co-ordination. There are few individuals that exhibit so extraordinary a state of neurotic co-ordination as " Blanche Witt, a Parisian hystero-epileptic. She is the type of the three stages: lethargy, catalepsy, and somnambulism, of which she realized every characteristic detail with marvellous precision. In all her states she was without feeling of contact, feeling of position, or feeling of pain. When her eyes were closed (in the waking state) she could not stand upright, nor close her hands completely, nor hold a heavy object. She could not hear with the left ear, nor see colours with the left eye, whose visual field was greatly restricted. In experimenting on her in the lethargic state M. Janet continued to make

passes, and presently found that she passed into an absolutely inert state—the deep state in which no muscular contraction could be obtained by pressure, nor did opening of the eyes induce catalepsy. After some further passes she re-awakened into what at first seemed a more alert somnambulism than ever before, but on examining this new condition it was found to be no slight modification of states previously obtained, but a state reconstructed, so to say, from top to bottom. She was now perfectly possessed of the senses of touch, capable of perceiving contact, position, heat and pain. She could now close her hands perfectly and compress the dynamometer with normal power. She heard perfectly with her left ear, previously deaf, and saw normally with both eyes. It was no longer possible to inspire in her hallucinations. In one point only did she differ from a normal person—namely, in her excessive electricity or determination to attend to her hypnotist alone, although capable of hearing and talking to other people. She in her new state had full remembrance of her life in the first state, but when she returned to the first state she had no knowledge of what happened in the second." (*Proc. Soc. for Psy. Res.* Pt. XV. p. 217.)

Another individual whose co-ordination was of a like transitory equipoise was Marcelline R——. She was subject to chorea and other easily deranging nervous states. These induced insuperable vomiting, so that the very sight of a spoonful of soup produced distressing spasms. At last she became paralytic, and so emaciated that death from exhaustion appeared imminent. In this condition she was hypnotized and became somnambulic, in which state she could eat readily and digest well. Her weight increased rapidly, and there was no longer any anxiety as to a fatal result. (*Ibid.* Pt. XV. p. 219.) She continued in this healthy state so long as the hypnotism was followed up. When on occasions with reverse passes she was allowed to return to her first state, vomiting and the other symptoms came

on; all memory of the hypnotized state was gone, and she was her old self, with no consciousness of having been in the second state. As under such conditions her life might have been risked, she was again hypnotized and restored to the second form of personality. We might note how readily such neurotics under suitable arrangements might have been made to present miraculous supernatural influences.

Under morbid conditions and in states of altered and double consciousness, the special powers of the memory may be exalted and the individual recollect circumstances that had passed out of the ordinary memory. Of this class of phenomena, Dr. Carpenter, in his *Mental Physiology*, gives several cases of the revival of long-forgotten languages. Dr. Rush relates the case of an Italian down with yellow fever, who, during the progress of the disease, passed from speaking English to talking in French, and later on, in the height of the disease, in Italian, the language of his childhood. Dormant memories of incidents may be revived in special states, as in dream-hallucinations. Such explains several phenomena of lost wills and so forth being presented to the mind not in its ordinary conscious state. There are many remarkable cases of such memory, exaltation in cases of partial drowning, recalling the incidents of a lifetime. Holmes in his *Mechanism in Thought and Morals*, says:—"A business man took a bond from another person for several hundred dollars, the holder mislaid it, and neither thinking thereon nor hunting for it could bring it to light; the borrower, knowing this fact, repudiated the affair. Years passed, and no discovery of the missing document had occurred. At last, the lender when bathing was nearly drowned, but in the moments of apprehension the leading acts of his life passed in review before him, and among them the incident of his putting the deed in a place of security. There it was found as the revived impression described it (p. 92).

Cases of dormant or even unconscious cerebration being revived under abnormal states in the personality are numerous. Coleridge gave a remarkable instance of a servant-maid in her delirium reciting Hebrew discourses, which had become unconsciously impressed on her memory when attendant on a priest, who was in the habit of reciting such compositions. Calderwood quotes a like incident. A girl, when about seven years of age, slept in a room only separated by a thin partition from that in which a violinist was wont to practise after all the family had gone to bed. The girl at the time, in her waking state, only referred to it as a disagreeable noise, but her sleeping consciousness had evidently stored the various melodies in her unconscious memory. Years after, when she was in service, beautiful music was heard in the house, which was traced to this girl, who was found fast asleep, but uttering from her lips sounds exactly resembling the sweetest tones of a small violin. From thence it was noted that after being in bed two hours she became restless, uttered sounds like the tuning of a violin, and then, after a prelude, dashed off into elaborate pieces of music. After a time, in her sleep she imitated the sounds of the piano in the house, then she began to imitate, in her sleep, voices descanting fluently on various topics, and reciting snatches of Latin and French, which she had heard in the schoolroom. Awake, she was only a dull girl, and afterwards became insane." (*Mind and Brain*, p. 404.)

A special illustration of the exaltation taking the form of the greatest mental desire at the time, is given in the following narrative:—Some miners were entombed by the rock falling in a bluff, on the Muskingham River. After being released, one said, "I became delirious, and strange dreams were running through my head. Every good dinner that I had ever eaten appeared reproduced again before my eyes, with all the circumstances of time and place. It was not a mere dream or imaginary thing, but they were

present to me, so that I found my hands stretched out to grasp dishes that appeared just before my face; and a stranger thing than all was that I appeared to smell each article of which every dish was composed. I could even hear the rattling of dishes just as if eating dinner." Another of the miners said, "I seemed to be at home, sitting at the table in front of my mother, in the place I always occupied. She passed me the bread; I thought I took it, and brought it to my lips, and only recovered my right mind to find my mouth was filled with bits of coal, that I was crunching between my teeth. At another time, I thought my father came into the mine, bearing in his hand a plate of short-cake. I saw the buttons on his coat, and could have sworn to every article of his dress. I could see the yellow butter running over the edges of the warm cakes, and brought it to my mouth, only to come to my proper senses by finding I was biting my hand." (*Ameri. Jour. Insan.* XIV. p. 62.)

Of secondary cerebration Mayo gives an instance:—"A young lady, previously unacquainted with mathematics and astronomy, would, when entranced, write fluently off pages of an astronomical treatise, calculations, diagrams, and all. Her manuscript was afterwards found to run word for word with an article in the *Encyclopædia Britannica* which stood in the library, and which she believed she had read in an entranced state." (*Truths of Pop. Supers.* p. 169.)

As illustrative of many varying states of consciousness the case of Louis V——, in the asylum at Rochelle, has been freely quoted not only on the continent and in this country by the Society for Psychical Research, but in the United States. At fourteen years of age he had a fright from a viper, which induced at first hysterical paralysis of the legs. Then he worked at tailoring, but, after a time, he had a a hystero-epileptic attack, and for more than two days he was convulsed and ecstatic. When he awoke he was no longer paralyzed, no longer acquainted with tailoring; his memory was set back to the viper's attack, and he remem-

bered nothing of after events. He subsequently "had six different states of consciousness, all of them more or less accompanied by distinct physical conditions, but only in one of these states is his memory like an ordinary man, that is, able to recall the larger number of the various phases through which his life has passed. Even in this, the sixth state, there are a few blanks in his memory, but in all the others he appears to remember only a few discontinuous portions of his history, and to forget completely those years in which his physical state was quite different. Thus, when he has paralysis of the right side (which is connected with a morbid condition of the left side of the brain), nearly twenty-one of his twenty-three years of life are entirely wiped out. But even then a certain application of soft iron to his right thigh, restores to him the memory of the greater part of his life, dispels temporarily all paralysis, and leaves only a few comparatively small gaps in his memory. Again, under certain magnetic conditions the hysterical paralysis can be transferred from the right side (which involves a morbid condition of the left brain) to the left side, involving the same inertia of the right side of the brain, and this change, which is quite sudden, is accompanied by a very curious change in the apparent aspect of his character. From being arrogant, violent, and profane, with indistinct utterance, Louis V—— becomes instantaneously quiet, modest, and respectful, speaking easily and clearly, but the greater part of his life is still a blank to him. The hysterical paralysis of the right side leaves him a rude, presumptuous, illiterate boor; while the paralysis of the left side finds him a docile, respectful young man. The five states are induced by different physical means, though in some merely by telling him he is in one of his other states. They are more or less intermediate between the two. In the best state it is not possible to keep him long, for his normal condition is at present that in which he forgets all the best part of his life, and is violent, arrogant and profane."

(*Science*, VII. p. 397.) We may add, in the one state he is a total abstainer, in the other he drinks and steals wine.

It will be observed in this typical case that the simple duality of the personality as propounded by Wigan is not sustained. Instead of the personality representing two distinct states, we note that it graduates between two extremes, and that in this, as in all discordant personalities, it represents every grade of conscious presentation from the simple, unconscious, merely asexual growth co-ordination in the mature organism, represented by absolute sleep and catalepsy. The co-ordination may represent any state of consciousness, any combination of faculties and powers, and these may attain continuity when in accord with any type of development. The instances in which diverse personalities are presented always exhibit a weakness in the co-ordination, as in tendencies to neuroses, epileptic convulsions, hysteria, and susceptibility to hypnotic influences, or they are due to shocks mental and nervous, which derange the co-ordination. Under any discordinate excitation temporary reunions may arise, usually only in one direction; but in others, as in the case of Louis V——, there may be various recombinations attempted. If the conscious being is constituted of two distinct personalities, we should only have two states of being presented by the one organism, according to the amount of activity the distinct personalities presented.

The fact is, the conscious ego neither represents one personality nor two; it is the aggregate of all the instinctive growths and mental manifestations of the perceptive and reflective powers pertaining to each secondary personality.

Du Prel, in his *Philosophy of Mysticism*, in various ways illustrates aconscious states. He writes from the self-consciousness of the somnambulist; the *rapport* with the external world through the external senses, is withdrawn, and a new *rapport* established. The I of daily life has disappeared, there may be the material, the unconscious ego.

"If a transcendental ego exists," he says, "it will be manifested in the following determinations, as facts of experience: —1. A duplication of human consciousness. 2. An alternation of the two states of consciousness. 3. Modifications of memory in connection with the alternation of states. 4. Functions of knowing and willing in both states. 5. Modifications of the measure of time and space." (I. p. 82.) All these forms of relation we have shown to exist; and more, we have seen that the personality may be presented under multiple forms of co-ordination. Of course, these are rare, the double state is the most common. This is a familiar change in lunacy, in insanity, in somnambulism. In sleep, as in the case of Dr. Johnson, and often in lunacy, the conscious and aconscious personalities in the individual organism may hold converse. Many a doctor has been surprised with the apparent cleverness of such dramatic presentations, even going so far as to express the distinctness of diverse powers. We account for this by the fact, as presented in the details of the various states of consciousness, that each presents a limited and partial attempt at co-ordination, the various secondary personalities only aggregating in various distinct combinations, two of which may be in a state of activity at the same time, and even certain faculties in associate union with each group. One common energy is the source of power in each presentation. More, the conscious ego is unconscious of the hints it receives from the unconscious elements in its nature by organic suggestion. In dreams the conscious ego accepts the phenomena of the multiple associations, and may carry on a conversation, or any other active presentation through the associate groups. "Maury, when learning English, spoke the language with someone in a dream, and, wishing to say to him that he had called upon him the day before, used the words, 'I called for you yesterday.' The other at once told him that the expression was wrong, and that he should have said, 'I called on you yesterday.' On awaking Maury

looked and found his censor was right." (*Du Prel*, I. p. 129.) In all sleep-dialogues the organic are actively and simultaneously under the guidance of each limited co-ordination. Sir Henry Holland says :—In some cases there seem to be a double series of sensations. The real and the unreal objects of sense impressing the individual so far simultaneously that the judgment and acts of mind are disordered by their concurrence.

It is in the multiple of these many co-ordinations in the wide diversities they present, and the numerous changes in the personality that they bring about, that men have founded their great arguments in favour of supernal manifestations. To recapitulate these would be to go through the whole series of monstrous forms, supernal powers and personalities.

There are two important general laws of personality that are demonstrated by the varied facts we have herein presented. The first is, that each human personality contains not only the elements of mental, moral, and organic powers that constitute its normal personality, but also all the types of those powers that its organic states represent of past presentations. Secondly, that any of these presentations, under certain conditions, may be presented by the abnormal reco-ordination as reversions or transferences, and, consequently, that every attempt at co-ordination will manifest a distinct personality, varying more or less from the normal co-ordination according to the elements in it that are affected by the change, and the memories coupled with them in the organic life of the diverse attempts at co-ordination.

CHAPTER III.

The Human Personality—Its nature and relations with the Supernatural.

In the ordinary general activity of the mind-powers in humanity, there are no active presentations of supernal manifestations. The world, the personalities, and the volitions that denote existences and phenomena are in natural harmony, and there is no concept presented of the supernatural. But outside this normal active state the following more or less discordant abnormal states of being are recognized:—

First—The wakeful-imaginative, in which certain mental powers, becoming exalted, present to the thought, expressions, idealisms, beyond the ordinary range of the faculties. These idealisms, though esteemed subjective, are constituted of the same elements as are all the other abnormal assumed objective presentations we shall have to consider. These, though formed out of the same elements as the generally accredited supernal expressions, are not deemed supernal, only exalted natural conceptions. The states in which supernal conditions are affirmed and the presentations therein, at least for the time, are accepted as objective, are, secondly, the ordinary sleep, in which dreams embody as objective personations many forms, natures, modes of volition, and powers, which are only deemed imaginative in

the ordinary waking state. The third state, that of somnambulism, is self-induced, of more or less unconscious cerebration, and in which phenomena present certain supernal or so assumed conditions. In the fourth, the hypnotic state, the conditions are induced by something external coercing the will and organic powers, and therein presenting phenomena conceived of supernal character. There are human states in which under neurotic organic conditions, certain tendencies to supernal concepts become manifest, as through fear the fetish state (fifth), and, through wonder, the sixth or magic state. Toxics (seventh state) which, by confusing both the physical and mental dynamics, present certain supernal exalted or depressed effects; and, lastly, in the derangements of mind and body present in paralysis, lunacy, and other deranged phenomena, when any of the accredited supernal powers may be present in the disordered mind.

In all these states of being, some or all of the following supernal phenomena may be excited:—As expressing supernal physical dynamics—1. The perception of transformed shapes and the transfer of members and attributes. 2. Supernally exalted powers over space, time, and substance. 3. Supernally expressed powers over its own personality. 4. Supernal powers over impersonal objects and other personalities, controlling their natural changes, their mental and physical powers, and, through them, expressing both natural and acquired phenomena. 5. The presentation of exalted supernal powers over mental phenomena, specializing, generalizing and thought reading. 6. Supernal powers of enlarging or neutralizing any sense, any volition. As expressing mental Dynamics—1. Exaltation of one or any of the menta powers in poetry, art, oratory, music. 2. Exaltation of physical powers and actions, or depressing, as in paralysis. 3. In inducing impulses not normal, as evil and good.

In the first, the preliminary supernal state, the awakened

and exalted thought-power, through the imagination, endows its ideal concepts and personations with any of the physical or mental dynamic attributes; every one of which may be self-present in the mind. Even in the child, wonder, fear, and curiosity, under excited or exalted mental conditions, suffice to change, alter, expand or modify recalled memories or perceptive presentations, so as to transform or transfer their attributes, exalt their powers over space, time, or other substances, modify their own personal concepts, their mental and physical powers, so as to add to, or neutralize, any sense, any volition.

The desire to dwell upon these supernalized forms of natural phenomena are observable in the child's personation of all objects, in its endowing the inanimate with the attributes of the animate, with feelings, propensities, and powers not only of a like nature, but exaggerated in every direction. To express these supernal impulses it invents and varies the attributes of everything present in its thoughts. It tells tales in which the characters are outside the natural laws of being, personality is altered, and great confusion made in their relations with nature, time, and space. More especially are human attributes transferred to all objects, as the power of speech and the powers of doing are recognized as the characteristics of every bird and beast.

The grown man, whatever his evolved status, retains these traditionary concepts of his childhood, and, with enlarged powers, exalts and intensifies these superadded attributes of things. Nor is their effect trivial on his nature. He humanizes the stars, the waters, the mountains, the trees, the animals, he evolves their varied relations into myths and legends, he associates them with mystic influences, [and thereby creates monsters and new forms of being, having other and more varied powers than pertain to objects in the natural world. Out of these mental materials he invents folk-tales, romances, and, later on, the more delicate interrelations of feelings, sentiments, and affinities. Thus

from the incipient child-presentations of supernal attributes, he builds up religions, he conceives of higher human states, and all inventions are due to these supernal cravings in the human soul for higher, more specialized manifestations. These are the practical results of the presentations of supernal attributes in the human soul in a normal state, and we now have to recognize their forms and results under the many abnormal conditions into which it may pass.

In the second, or sleep state, the capacity to form supernal concepts continues to be an attribute of the mind as in the normal state, save that the personality may be altered. In sleep we may be other than our real personages, we may be anywhere in time and space; we may be young, we may be old; our moral natures, our physical powers, our mental faculties, may be changed, modified, or exalted. We may do in sleep what we could not achieve when awake. Hallucinations following the whole series of supernal attributes we have indicated may occupy the mind, not as subjective idealizations as they would have been considered in the normal state, but as actual objective presentations. In fact, all appearances and things under normal conditions only esteemed as ideal, in dream-presentations become realities. They may be less coherent, judgment and consciousness may be transposed, and the lines of individuality take a new direction; but we fail to recognize these changes as the powers of hallucination extend to self-recognition.

When we note the characteristics of the third, or somnambulic state, the same general supernal attributes are present as in the dreaming state, though to the hallucinatory attributes are attached many of the volitional powers present in the normal state. The dynamic attributes may be exalted or depressed, altered or negatived, the general hallucinations being the same though modified and held in check by the semi-conscious volitional perceptions. Hence the blending of hallucinatory perceptions with the actual doings of somnambulists. We have some consciousness of our ideas

becoming more than natural in the normal state, but in the dreaming and somnambulic conditions we accept all volitions and appearances as the natural order of things.

In the various phases of the fourth, the hypnotic state, the personality may continue the same, or it may be changed or modified by the presiding control of another's will. It may remain active and personally conscious, or be wholly subjective, cataleptic, or reduced to a lethargic condition. The thought perceptions may be wholly of the same nature as in the waking state, or they may be hallucinations, as in dreams. Any or all of the supernal phenomena we have tabulated may be expressed in the widely varied phenomena induced by a commanding will in a hypnotic subject.

In the fifth and sixth abnormal states, which are only distinct from the normal in the more or less tendency they exhibit to accept certain physical and mental presentations as not mere exalted or excited mind-products, but as actual supernal presentations outside the natural order of things, induced thereto by morbid impulses of fear, wonder, or curiosity. We have described these partially aberrant mental phenomena under their leading presentations; but in the waking state, through neurotic stimulations, any feeling, faculty, or power, may pass out of normal presentations and manifest any class of supernal influences. This fact, while strongly marked in the whole series of accepted fetish presentations and powers of magic and witchcraft, is also manifest in the readiness with which any myth, religious or otherwise, and all supernal manifestations, are accepted. Such abnormal influences find one class of presentations in eccentricities of conduct, habits, and expressions, and all the great series of personal phenomena which intimate that while the general co-ordination continues normal, some of the physical or mental faculties have become discordinate.

In the seventh, or toxic state, under, in general, self-

induced conditions the normal balance of the co-ordination is lost, excitation and exaltation pass into hallucinatory phases. The mental and physical dynamics become confused, the personality more or less altered, a state which passes into self-hypnotic stupidity, or tends to derange permanently the mental and physical co-ordination. The supernal presentations under toxic influence pass from the exalted idealisms of the normal state to the wildest hallucinatory concepts of mania; in all cases they present illusionary phases that come under some of the supernal forms we have tabulated.

In the eighth, or deranged mental state, all that in the normal state are presented as idealisms, all supernal forms and supernal conditions, become actualities, often without the presentation of judgment, order, or method. They may be wildly contradictory or incoherent, a mere jumble of the natural and supernatural, but in all cases we have no other presentations than the ideal supernal differentiations from the real as we have in the other states referred to.

The various supernatural affirmations that have been attached by vulgar and wonder-loving recorders of ghost tales in all ages, down to the classified and systematic narratives of the Society for Psychic Research, are all made up from exalted subjective impressions accentuated by unconscious cerebrations modified, even when present, by some fixed idea in the mind, which, when the vision passes away, blends with a prominent power in the memory, and subsequent concepts in like way grow into the record, and if it is accompanied with any coincident results, it becomes a supernal narrative—a myth. One case which we can grasp is worth a thousand incidents whose mystic affirmations we might vainly endeavour to follow, and whose self-suggestions are outside all possible realization.

We will take a case recorded by Sir D. Brewster in which are contained all the elements that would have sufficed in a marvel-loving mind to create some half-dozen

ghost tales whose verification would have been of the simplest character and which in themselves offered the temptation of being supernal monitions. As Sir Isaac Newton and others have shown, the imagination has the power of reviving the impressions of luminous objects, months, and even years, after they were first made. From such phenomena, Brewster says, the mind feels it to be no violent transition to pass to those spectral illusions which in particular states of health have haunted the most intelligent individuals, not only in broad daylight, but in the heart of the social circle. He illustrates this principle by the case of a lady who had a series of hallucinations of this nature. We do not propose to rehearse the whole narrative, which may be found in Sir D. Brewster's *Letters on Natural Magic* (*Edit.* 1868, p. 126). We only desire to illustrate the affinity of these known illusions with the great body of supernal appearances recorded by Mrs. Crowe, the Psychic Society, and many others.

The mental influences outside the perceptive powers, and the exciting will of Mrs. A——, began with hallucinations of sound, she supposing that her husband was calling her name. This voice of a dear relative is one of the minor forms in which death warnings are presented in several of the recorded instances. Afterwards she beheld the figure of her husband gazing with the melancholy fixed gaze so characteristic of ghost appearances. She knew it was not a bodily presentation because she recognized no footfall, no blast of air as it passed her, and as she was mentally conscious of her exalted subjective powers, she had no concept of its being a supernal manifestation. The next illusive phenomena she manifested was typical of the common witchcraft presentation of a cat. This was followed by the appearance of a near relative looking over her shoulder, and seen in that position reflected in the mirror on which her attention was directed, and apparently in a shroud, but probably, only as she may have seen her in

the same glass in her night-dress, as she only saw the upper part of the figure. The idea of a shroud was due to the vague presentation of the figure in her night-dress, and the imagination. Of course, if anything had happened, either at the time or subsequently, to either her husband or friend there would have been present a decisive instance of telepathy with Mr. Gurney, with Mrs. Crowe a ghostly warning, but as no such coincidence intervened, or was supposed to intervene, and as the lady percipient knew their natural cause, they left no supernal impress in her mind. When her husband was absent on a journey her mind was no doubt fully conscious of missing his presence in a thousand little incidences; hence, with her subjective exaltation, illusions became various and prominent, and she had telepathic sounds and visual impressions, which would have excited psychic research. She heard her husband ever moving about as she lay awake, and, as is often the case with spectral-mongers, she heard sounds like his breathing hard on the pillow by her side, and sounds such as might have been made by his turning in the bed. She even heard his voice when she was out riding making remarks on the scenery such as he would have done had he been present. These were all only revivals subjectively of many previous incidents which had become automatically impressed on her memory, and were consequently capable of being revived without conscious thought by unconscious cerebration.

Subsequently she saw the figure of another deceased friend not as she had seen her, but in a dress exactly like the one she wore, which had been described to her; hence, suggested words in her memory had assumed the visual appearance her mind then conceived. When one faculty has a strong suggestive action on another faculty, the transfer is an effort, and the delicate sensibility of the eye expresses itself. This accounts for so many affections being presented by the eye in response to organic transfers of

energy, and this is the only case in which Mrs. A—— describes herself having a peculiar sensation in the eyes. At a subsequent time she, when in bed, saw the phantasm of her deceased mother-in-law. This was a mere revival of a memory impression, as she had on the same dress she had been wont to wear. On another occasion she saw, under like conditions, another deceased friend. This was followed by the most imaginative presentation the lady appears to have experienced. A carriage drives to the entry of the residence, the postillions and the figures in the carriage were simply skeletons. Of the origin of this idea we have no record; the skeleton forms she may have seen at a friend's medical laboratory, or they may have been derived from prints. A morbid emotion would have assuredly taken such for a death warning, and it might, as in so many recorded cases, have brought its own fulfilment; but the lady's mind, however startled by the incident, was not self-paralyzed, and no untoward consequence ensued. This was followed by the phantasm of a dog, then of her brother-in-law, who was alive and well in London, in his grave clothes, probably a reminiscence of two different impressions: the memory of the young man, and some case of seeing a dead person in the coffin. Of course, in this instance had his death been recorded within some time we should have had its prescient intimation. Lastly, we have a case of two Simon Pures, or double like-presentations. She raises her eyes and beholds her husband standing in the room; she knew it could not be his bodily reality as she left him the instant before in another room. She goes there again, he is still where she left him, and for the time she is bewildered in defining the real from the visionary. This also illustrates another phase: that of apparitions of the ghost of a living being. We thus have in the experience of a single lady most of the leading mystical phenomena recorded, even in the seven hundred reports of apparitions in the archives of the Psychical Research Society, or presented in the pages of mysticism.

In the case of Mrs. A—— the presentations were all self-suggestions, stimulated subjectively by some morbid local organic excitation which induced their appearance from the impressions in her conscious or unconscious memory, either in their simple or in a compound state. The capacity to educe such revivals varies much in individuals, and even in the same individual. Thus from the remarks of Sir D. Brewster, there was a time when this lady had no such visions, they only continued while her organic co-ordination was disordered, and when it became normal the local suggestions ceased. Sometimes, as in so many other forms of local and functional derangements, such special morbid suggestions become hereditary even, only being excited when the mind becomes conscious of an approaching death. We have a case of this character recorded in the *Zoist*. A family in which the perception of apparitions were hereditary, the supernal intimations assuming several of the well known modes of supernal manifestations. In the presence of a dangerous sickness they were excited, and often occurred shortly before a death. They came sometimes in human shape, at others as cats, or in knockings; ever there was one of the family, or they knew of a neighbour, dangerously ill. (VII. p. 59.)

Dr. Alderson, in his essay on apparitions, records several cases in which such appearances are due to local diseased suggestion. More commonly they are only recorded when they pass beyond mere partial abnormal conditions, and become the more or less permanent chronic hallucinations of the insane. Dr. Alderson shows that in the case of a vicar of Shoreham, they began when he was only four years of age. In other instances he shows that they had their origin under the stimulus of certain organic derangements, and that they passed away when the equipoise of the co-ordination was restored. The presentations under the abnormal conditions varied, and took some of the more customary impressions that, by automatic repetition, had

become amenable to organic stimulation. With one near Shorncliffe, these appearances take the form of oysters, or soldiers. An old lady's revivified memories were being introduced to friends visiting, and her ordering the card table to be brought out. A man returned from America, and anxious about his family left there, sees them in every bright or exciting object, in the pictures on the wall, even on a bright brass lock. Another, having his preserve, and no doubt often seeing real or imaginary poachers, has, when organically discordinate, illusions of ghastly spectres of poachers. In all cases this class of visions cease when the normal organic status is restored.

When we take a general review of the great body of recorded appearances, whether as the suggested affirmations of the feelings, habits, tastes, or intellect, it will be found that they always express the common perceptive idealizations automatic in the percipient's memory. The vulgar churchyard and haunted-house ghost is in association with tap-room subjects of thought and kitchen gossip, a step higher it expresses the feelings and impulses of the home family interrelations. In the world of society it embodies society doings; in the literary or artistic circle it derives its characters from the automatic imprints of its pursuits; but, as in most, affinities of impulses to two or more of these states exist, and they often become blended in the same individual.

One illustration of this class will suffice. Dr. Abercrombie records the case of a gentleman of high mental endowments who for ten years had been liable to the daily visitations of spectral figures, mostly human countenances, with the head and upper parts of the body distinctly defined, the lower parts, for the most part, lost in a kind of cloud. They would come in all forms, male and female, in various costumes, as that of Louis XIVth's time, as ancient Romans, modern Turks and Greeks, and in Scotch plaids (he was a Scotchman). They appeared at all times,

day and night, and he saw them equally with his eyes shut or open, in broad daylight or in darkness. He found he could banish them by drawing his hand across his eyes, or by shutting or opening his eyelids once or twice. The figures were some of life-size, others miniatures, but always defined and finished with the clearness and minuteness of a fine painting. They were sometimes distant, at others close, floating, ascending and descending. A little extra wine increased the number and vivacity of the visions.

Special suggestions of a marked kind may arise in abnormal conscious or unconscious states, through the influence of various toxics on the stomach affecting the various memories in the sensorium, a nerve may be the channel, the blood may be the channel, but the mental forms excited may have a special significance, yet, at the same time, the leading characteristics of the abnormal. Such are the different states presented by individuals under alcoholic influence, by taking opium, and so forth. All such presentations are coloured by the special nature of the exciting medium, but the subjective tones and characters express the individual attributes, they are reflexes from its automatic impressions. Each ingredient taken, however, has somewhat its own special nature, and the tone of the mind the class of suggestions induced thus have some distinctive properties. The excitations from various alcoholic substances is, in each case, distinct, so there is a different state induced by opium, hasheesh, and other toxics. The accidental taking of some such ingredients has had extraordinary mental effects, and visions, sensations, and impulses have arisen, which appear to have no prototypes in normal states. That men from these instances should have educed the idea of supernal suggestions was due to natural conditions giving no like responses, hence whenever they desired to bring themselves in relation with these ultra forces, they had resort to these vital modifying stimulants. Not only was it possible thus

to create ghosts, but all the forms of supernal intimation became under the control of the will. Opium and alcohol transmute space and time, and even the gift of prophecy may be evolved by henbane. An instance of this kind is referred to by Dr. Brewster and several others. In 1737, Dr. Patouillet, a physician of Toucy, in France, was called to a family poisoned by mistaking henbane-root for parsnip. The father, alone, of the family had not partaken, but nine other individuals were in convulsions, with limbs contorted, some speechless; all had their eyes starting out of their heads and their mouths drawn backwards; five uttered howlings and seemed as if they would prophecy. One said, "In a month my neighbour would lose his cow"; another, "In a little time you will see crown pieces of sixty pence at five livres." After recovering under medical treatment they remembered nothing of what had occurred, but during the day every object appeared as double, and on the next, though single, they were as red as scarlet.

Nor is this the only instance in which organic disintegration induces the spirit of prophecy. We have ample evidence that all barbarous races, and the higher races which affirmed this as a supernal power, in all cases prepared the seer-percipients for their special function by privations, fasting, special inhalations, nervous derangements and narcotics. That there is a natural development of this presumed supernal power by local suggestion in the organism, the facts we have presented tend to confirm. Even a physical injury may cause the evolution of this form of suggestion. Du Prel gives such a case:—A young Florentine, wounded by an arrow, the head of which remained in the wound, began to prophecy, and is said to have named the persons who came to see him long before their arrival, and designated, as so many have done the hour of his recovery. (*Philos. of Mysticism*, I. p. 220.)

CHAPTER IV.

The associative Mental phenomena in the Human Personality —Self-suggestion.

THERE are continuously occurring opposite or contrary suggestions in all men's minds, two influences of distinct origin will be impulsively working in the mind. We will and we will not. One, as in the choice of Hercules, is urging us to virtue, another to vice; sometimes the will vibrates between the two, and alternately expresses two distinct influences. The varied forms of self-suggestion become sometimes highly dramatic, and we may, with Dr. Johnson, hold logical discourses with another self, or, like Tasso, be at one and the same time the Italian poet and an angel of light. It betimes occurs that in the deranged co-ordination the better suggestion, feeling its powerlessness to counteract the discordant influence, endeavours to prevent its gaining the ascendency. Of these Dr. Wigan quotes a series of cases. A German servant of Humboldt's begged that the child she had in charge might be removed, as, when she saw the whiteness of its skin, she had an almost irrepressible desire to tear it to pieces. A young lady in a Paris asylum asked to have the straight waistcoat put upon her as she had an inclination to murder some one. A celebrated chemist committed himself to an

asylum that his desire to commit murder might be under control. A woman, who fled to a church, casting herself down at the foot of the altar, that by strengthening her religious influences she might be saved from the impulse working in her mind to strangle her babe in its cradle. A butcher's wife, who begged her husband to put out of her reach the knives, as she had an overpowering desire to kill him and their children.

Every phenomena, mental and physical, presented in the hypnotic state by the suggestion of an external personality, may, as far as the conditions admit, result from its own personal self-suggestion, by the sense impressions which have their origin in external physical influences, or by automatic suggestions, arising either in the mental or physical organization under the influence of discordinating impulses that affect the secondary personalities.

Loss of personal identity, change by transformation into another human, an animal, or an inanimate object; loss of memory, loss of power of any kind, loss of speech even, in its infinite forms; the capacity to denote by signs, loss or change of affections, of moral concepts, of social characteristics, may occur not only in hypnotic or mesmeric states, but in insanity, under paralysis, in dreams, in somnambulism, in toxic conditions, in all states of being in which the guiding and controlling reasoning powers become dormant.

This power of suggestion has an important bearing on all the phenomena that induce supernal concepts, so that it is most judicious to fully consider not only its varied manifestations, but the many modes by which it accrues. These are diverse and special, arising, as we have said, not only by the expression of external mind, but by the expression of all material forces, by the individual's own self-mental influence, and by the action of any organic member or faculty of his body, or any of his mental powers. These forms of suggestion we shall severally consider.

Thus the power of suggestion has been limited to nervous excitation and nervous response, but in the evolution of organisms, or ever nerves were evolved, a corresponding co-ordinating influence was manifest in the low class organism—the plasma responded to the nucleus and cell to cell.

With regard to external sources of suggestion, we have to look for the source of this power not in the will of the controlling personality, but in the mental paralysis present in the subject. A snake might look with a basilisk gaze for any period on a stone, a fruit, or flower, and the object would not be affected, but if the glare of the eyes and the expression of volition is directed to a small bird or insect, self-negatived nerve and muscle fail in action, and it drops into the yawning jaws beneath. We too often assign power to the controlling will, when it is the negation of power in the subjective being that induces the special manifestation. So it is with man, the source of loss is in the subjective mind, and we have yet to learn under what conditions and to what extent energy can possibly pass from one personality into another, and, in doing so, we must remember that emotional expressions, words, and mental powers are only effective on like mind-powers, and that to lecture, cajole, or threaten rocks, grass, trees, and flowers is absolutely effectless. Whether a human personality can be projected into another human personality we shall have to consider; all personal negations are self-induced.

Negation of both physical and mental powers may be present in states of great mental excitement; objects may then not be seen, words may not be heard, nor wounds felt. Each sense may, except on the exciting object, be dormant, and the preoccupied will knows of no presentation beyond it. There are many personal states under which various negative conditions intervene. Sleep may totally suspend all mental and all consciously volitional actions. In

the somnambulic state, some physical, some mental powers, may be inert; the eyes may be wide open and yet not wink when the hand is brought suddenly in close proximity to them. And though they are fixed intently on a picture, perception is not affected when a book is interposed between the eyes and the painting, the presentation though apparently external being internal. So with the other perceptive nerves in that state. A lighted sulphur match under the nose produces no irritation, and perfumes fail to make any impressions, lemon juice and quinine to the taste are neutral substances, and neither scratching, pulling the hair, pinching, or tickling induce normal effects. So, while conversation may be continued by and with the somnambulist, the ears may be inert for other sounds, the report of fire-arms may be unheard, or that and other sense-powers may be absolutely altered, discordant harsh sounds may be pleasant, the smell of brimstone and phosphorus burning be esteemed agreeable. In like manner, volition may be neutralized or so exalted in some of its manifestations as to carefully note and avoid even intentional obstacles, or walk in places where it would in a normal state be impossible for them to adventure.

The various forms of the hypnotic state, whether self-induced or due to the actions of other persons, manifest the same negative characteristics; or self-suggestion, concentrating the energy on one faculty, may render it proportionately exalted. Whether the phenomena are wholly self-evolved, or self-evolved through outer suggestion, the conditions induced have the same characteristics. Externals become vague volitions, and sense-powers gradually decrease until they cease or are modified into other than normal states. Hearing and articulation cease before the power of seeing is lost; then, as in deep sleep, absolute lethargy of all the presentive faculties ensues.

The negative conditions are the same in hypnotism as in somnambulism, and the nerve forces may become hyperæsthetic or anæsthetic pains of all kinds. Special affections of all kinds may be either neutralized or intensified. Under these conditions when the personality in the subject is dormant, whether in the form that in sleep gives the dream phase, or in the somnambulic or hypnotic like states, then the subject may be receptive to suggestions from without. These need not express mind-force, an external will, an intentional activity. They may come from another personality without conveying anything from that personality, they may be equally induced by natural phenomena. In the dream or hypnotic state, a storm, the thunder, a lightning flash, the sound of rain or falling waters, of the wind and the rolling of the tide, will as suggestively influence the abnormal state, as will the movement of the influencing personality, its whispering in the patient's ear, or the application by it of material influences to the senses of the subject. Under all these conditions the mind of the subject responds through its memory to the external material or immaterial influences which to it are all of one nature, and, like the æolic harp, respond equally to the breeze or the touch of human fingers.

Need we be surprised then to learn that when the central personality is cataleptic, that any of the secondary personalities may continue to act on their own lines? They may be expressed in such trivial incidences as the hand, arm, or leg remaining in any position that outside influences have placed it in, or may be manifested in complex volitions that by continuous habit have become structural instincts, and, as Luys says, one used to knitting, having the suitable materials before it, knits on continuously. Another, having a knife and a piece of bread proceeds to cut and eat it, if it is an umbrella he proceeds to open it, if a ladder he climbs it, if a comb he combs his hair, if a cigar and a match, and a habitual smoker, he lights it. Every touch, every

wind, every sound, induces habitual ideas, and raises up corresponding ideas or responsive hallucinations, all of which have their bases in the receptive capacities of the subject's mind, and not in the projection of any portion of one mental or physical capacity into another.

We might show that the same like changes are induced in toxic personal states by the action induced in diseased states, mental and physical, and possibly under other abnormal conditions.

So much for the capacity in the individual in certain organic states to have his mental and physical powers neutralized or altered under the influence of sense impressions, whether derived from physical incidences or mental actions. Ordinary judgment, the power of common sense ratiocination, are the first mental qualities to succumb under reverie, or the various forms in which the mind passes to or from deep sleep. In that intermediate state, when attention is still observant and the unconscious, if not the conscious self, has still some hold on externals, then the impressions, being newly received, are not distinguished from the impressions stored in the sensorium, but the ideas derived from the two sources are blended and there is no power in the mind to compare, judge, or define them. Hence our dreams in sleep, our volitions in the somnambulic, our expressions and emotions, when in a like manner influenced by the hypnotist, are made up of our automatic memories and the volitional and emotional suggestions presented to our minds.

None but are acquainted with instances in which the subjective impressions are brought under the influence of suggestive impressions, and no matter under what conditions they occur, the inducing state is always the borderland of wakefulness. The greater part of phantasmic mysteries become cognizant in this powerlessness of the reasoning will. Ghosts, monitions, mysterious sounds or volitions, prevail under various quiescent states. The

man awakes out of his semi-sleep and the phantasmic image of his dream, prominently photographed on his sensorium, remains as a present fact. He dozes in his armchair, and some memory impression—that may have during the day on several occasions appealed to the mind—of a sick friend, or some sound, some unconscious mental idealism, may have aroused it from the dormant state, and the half-awakened eyes behold it on the curtains, or pacing the floor, or looking down with its melancholy expression on the self-mesmerized dreamer. So it is ever, sleep collapses the judgment, fear withers the power of comparison, a fixed idea absorbs and dulls the reasoning faculty, and expectation induces the ready acceptance of any similitude that satisfied the drowsy senses. You may look along the line of the tombstones or the shadows of shrubs and rocks, at the windows of a haunted house or along the dull arched galleries, until some trivial incident, or sound, or gleam of light becomes idealized by expectancy, and where there is no judgment there is no exercise of ratiocination, the self-engendered phantom has done its work, and imagination completes the idealism. The astute medium waits till this state of wishful expectancy is reached before the work of the *séance* begins, and what the medium wills to do the expectant onlookers will to see.

The forms of internal suggestion are always in accord with the wants of the parts, and the influences responding are those that are naturally effective. A torn or cut muscle or severed cutaneous integument is immediately, by the surrounding parts, supplied with the healing serum, and each developing cell becomes a brick to fill up the chasm. Whenever any of the digestive fluids fail in quantity, the working parts call on the secreting glands to be more productive. No matter what the want the parts in relation under normal conditions are called upon by direct suggestion to supply each organic deficiency. More, without any appeal to the consciousness, if the failure

is only temporary or permanent, the parts in affinity endeavour to make up for each other's failings either for a time or continuously. To what extent these special transfers of powers take place in our organisms unconsciously, few can conceive. Thus one muscle does duty for another muscle, one gland for another gland, one sense with wonderful effect stimulates the duty of another sense, and, to save the loss of the co-ordination excrementitious matter is cast off in new channels. More, the organic parts betimes appeal to influences outside the organism and come into direct relations with externals; the thirsty body itself imbibes the necessary fluid which fails to reach it by the ordinary channel, and the wasting energies of one co-ordination have been recouped by the direct transmission of blood from another.

Suggestion is usually present to us as a form of mental telepathy, but in the relation of the disorganizations we have been referring to, we have no intimation of any such form of power, and they certainly are never present in the conscious, or, as far as we can judge, in the unconscious ego. Whatever the mode and nature of the physical suggestions and their relations with the responsive actions as yet we cannot tell, they are not cognizable by the consciousness, they are not explainable by reflex nervous presentations.

There are, however, a large class of mental suggestions following other lines of activity present in the personal co-ordination, and these powers of mental suggestion are self-engendered and self-evolved. Of necessity they arise in the organism, but they may appeal from and to any faculty, any member, in the co-ordination. They work through the nerves, they charge the plasma, they, by some unknown telepathy, pass from the thought to any member or any special part of the organism, from any such part to the central energy, or locally from function to function; or as forms of memory they become impressed on the

recollection and constitute not only the basis of all automatic suggestions, but even of special suggestions to be revived in connection with definite events, definite persons, and definite times. The first series of self-suggestions are self-presented — they may arise from outside stimulation, but they are essentially specialized by self. Such are the many extraordinary instances of self-cures by willing, by suggestion, and like derangements, and even death by self-suggestion. A presentiment, whether mystical or due to self-impression, brings its own fulfilment at the hour affirmed. So the same self-suggestion that in one state imagines a tickling, creeping, or biting sensation, will in extreme cases produce the semblances of stigmatism. This field of self-suggestion on the local organic as well as the mental energy is a psychical co-ordinate attribute whose range of influence is by no means defined.

Of the power of self-suggestion influencing any faculty or member, we have innumerable illustrations. Self-suggestion of relief has often removed a head-ache or tooth-ache, and faith in a remedy, whatever its nature, is often conducive in restoring the co-ordination. According to a report in the *London Medical Times*, four Russians, condemned to death, were, without knowing it, put to sleep in beds whereon persons had died of the cholera, but they did not take the disease. Subsequently they were told they must sleep in the beds of cholera patients, with the result that three took the disease and died in a few hours. There are several analogous cases in the *Contemporary Review*. A young lady had the head-ache, she applied to a friend for something to relieve it, and suggested *sal volatile*, the friend went for it thinking she had some, but the bottle was nearly empty. Not to cause the depression of disappointment, she played on her an innocent ruse and put a drop or two in a glass and filled it with water. The patient tasted it, remarking that it was nasty, but drank it. The head-ache

departed, and the same result followed several times with the same simple materials. (IV. p. 30.)

A like influence of suggestion is seen in the following cases :—A gentleman crossing the channel and fearing sickness retired into the cabin, but the vessel was detained and had never left her moorings, yet through the concept that she was rolling on the sea he became deep in the throes of the sickness. In another case a doctor, passing through a field, picked some peas. While rolling two of them between his fingers he came to the door of a patient, and she, inferring that they were pills he was preparing for her, asked for them, and without knowing their real nature swallowed them, only to find that fancy kills and fancy cures, for the next day when he called she told him that his pills had effected a cure. A lady was under the impression she was going to die, she had intense head-ache, vomiting, and so forth. The doctor, knowing her emotional nature, gave her simply a teaspoonful of water. The first dose stopped the sickness, cured the head-ache and sent her into a restorative sleep. (*Ibid.* IV. pp. 31-33.)

All the virtue in charms, in patent medicines, in the royal touch, galvanic and hypnotic healing, and the power in relics, lies in the self-suggestive power concentrating the mind, and through it the recuperative energy on the failing powers of the co-ordination. So long as the deranged conditions are only due to the failure of the energy to act on the discordinate powers, so long the concentrated will has power, by transfer of energy, to recall them to the normal state. If the failure has resulted in the material destruction of the tissues, they can only be replaced by new growths, consequently under those conditions the will is powerless to produce an immediate effect, but if the mind can under those circumstances continuously work the energy in the one direction, even important disintegrations may be stayed and the new growths be sustained.

The same power of suggestion that deprives the human

faculties of their ordinary energy has, in more favourable influences, become curative. Witchcraft, magic, illusions of evil influences, ghosts, devils, and the evil eye, all forms of fascination, all paralyzing premonitions, all suggestions of loss and degradation according to the extent that they represent the failure of energy are they productive of evil. Such emotions can be so intensely discordinating as to paralyze the brain and even stop the heart's action so long that it fails to recover tension.

In less degrees of emotional disintegration, the mental suggestion in the mind deranges, in innumerable ways, the co-ordination; or even local physical depression or excitation induce loss of energy in any subordinate personalities in the organism. Thus, fear not only suggests a vague sense of dread affecting any faculty or power, but induces hallucinations and illusions of every sense, even volition may be powerless. The morbid self-suggestion may be the dread of fire, of lightning, of being watched, of robbery, conspiracy, murder; it may be a fear of pollution, of closed places of certain animal forms. Aphasia and agraphia may be induced by fear, many physical alterations, even general dementia. Any special subordinate faculty may be affected by fear. A girl of seventeen, frightened by the floor giving way under her, had head-aches, chills, and itching of the scalp. After a time her hair all came off, and she lost every hair on her head, remaining bald, though otherwise generally healthy. (*The Alienist*, I. p. 115.)

Physical injuries may affect functions far removed from the deranged parts. Thus in one case, injury to the eyeball induced diabetes, the secretion of urine being immense, and it was almost entirely relieved by the removal of the eye. *Ibid.* I. p. 62.) There are many like cases in which local suggestive stimuli have a wide range of action, and we might be tempted to affirm that the power of specially affecting any one function resides in any other, whether physical or mental.

Many such phenomena of suggestion are present in

simple sense illusions, in dreams, somnambula, and visionary waking states, as well as in morbid disease conditions, in hallucinations, in diverse states, which may affect the co-ordinate actions of every faculty, mental or physical.

We have much yet to learn regarding the nature of the subordinate personalities and their inter-relations, both among themselves and in connection with the conscious and unconscious ego. The phenomena of grafting and the result of certain amputations show in how much the ego may be dependent for its attributes on the subordinate parts, and the capacity it retains of using members derived from other organisms. But this line of investigation is outside our present study, save as intimating the possibility of new and apparently ultra-natural characteristics becoming manifest in a personality. (See Appendix B.)

There are not only the active immediately present suggestions derived from the conscious ego and impressed on the general mind or only specially influencing distinct faculties and powers in the co-ordination, but there are special capacities in the ego and in the several parts to retain forms of suggestion for an indefinite period, and without neutralizing the active power of present suggestion may recall a previous suggestion at any time, no matter whether the conscious ego is in its quiescent or active phase. Of the vast influence of this capacity to retain suggestions and to recall them a-consciously as supernatural forms of expression, we have now to observe. A very simple illustration of this retention of suggestions is the very common faculty possessed by men on going to bed to will to re-awaken at a certain definite hour. As is usual, our organism gets into the suggested habit of waking at one special hour in the morning. So common is this, that may be for months we may have no occurrence of the breaking of the rule, but if the individual is going a journey and wishes to catch an early train he suggests to his mental personality his will to awaken at a suitable time,

and the man in general does so. All our habits of body and most of our mental habits are built up of suggestions that by repetition have become automatic. Even our several secretions come under this category, and we may will to suspend or retard them by self-suggestion, and the subordinate personal call will not be made by the sub-personality in the suggested period of abeyance.

Self-suggestions of times and volitions thus present in the mind or organic substance, may revive the otherwise dormant or even occupied and active thoughts to the reserved duty, so that its presence is recalled not only in sleep but in the busy occupations of the day, in the excitement of the forum, the pursuit of gain, the intense study of a recondite problem, and we start on the instant with the re-awakened suggestion prominently present in the mind's eye.

It is this power of fixing suggestions that gives a permanency or limited permanency to ideas, for the suggestion that induced a fixed idea may abort that idea by the presence of another idea. To this capacity of repetition and this capacity of change are due all organic and mental habits, all instincts of growth and mind and the limitly fixed, yet ever changing, ever advancing, capacities and attributes of organisms. Each and every faculty is made up of fixed and deferred suggestions which may waken not only in the individual organism, but, in the forms of atavism, may pass over generations to re-awaken in a progressive or reverted series. We shall have to bear in mind these powers of self-suggestion, general and special in one individual, when we are considering the effects of suggestion by one personality on another. Of the inter-actions of the suggestions in the one personality, we may quote the following graphic description by F. Harrison:—

"Touch the smallest fibre of the corporeal man and in some infinitesimal way we may watch the effect in the moral man. When we rouse the chords of the glorious ecstasy of the soul we may see the vibration of them

visibly thrilling upon the skin. Suppose a martyr nerved to the last sacrifice, or a saint in the act of relieving a sufferer, the sacred passion within them is stamped in the eye. Man is one, however compound. Fire his conscience and he blushes. Check his circulation and he thinks wildly or thinks not at all. Impare his secretions, the moral sense is dulled, discoloured, or depraved; his aspirations flag; his hope, love, faith, reel. Impare them still more and he becomes a brute. A cup of drink degrades his moral nature below that of a swine. A violent emotion of pity or horror makes him vomit. A lancet will restore him from delirium to clear thought. Excess of thought will waste his sinews. Excess of muscular exercise will deaden thought. An emotion will double the strength of his muscles. The prick of a needle or a grain of mineral will in an instant lay at rest forever his body, and its unity and all the spontaneous activities of intelligence, feeling, and action with which that compound organism was charged." (*Questions of Belief*, p. 7.)

Reviewing the many applications of self-suggestion it has been remarked that a large part of our ordinary course of action is determined by direct suggestion. Trains of thought arise from one suggesting another, sense impressions are suggestive of other sense impressions or impressions in the memory. Physical and mental powers may each and all be excited and exalted by self-suggestion, it is thereby we are enabled to exceed in any manifestation of will, whether in muscular action or mental attention.

Mental "suggestions may be conveyed through any of the senses—for instance, through the muscular sense—by placing a limb in such a position as to suggest an act, and the subject spontaneously completes the act so suggested. So by sight and touch: give an umbrella to a somnambulist, he will open it; a knife and bread, he will cut it and eat it; knitting needles and she will knit. So with music: the dance tune will be reflected on the face, a religious piece in

position of prayer. The patient may be transformed into a regular phonograph by placing one hand on the forehead, the other on the neck, he gives back with exactness every sound uttered by the operator. Then the subject may be endowed by suggestion with powers he does not naturally possess in his own personality." (*Quart. Rev.* CLXXI. p. 249.)

Self-suggestion may arise in any faculty or any combination of faculties. We have it expressed in hunger, in sexual desire, in the craving for special foods, the desire for certain movements, the almost automatic impulse for any pursuit, any habit. So from the mental powers, dreams, hallucinations and unconscious cerebrations, individual faculties and parts are excited, every desire of the consciousness is only the individual call of a subpersonality.

We have yet to specify the limits of the power of self-suggestion and to note in what way and how far it may extend from the personality or subpersonality that induces it. The source of the connection is obvious. In all the suggestive interrelations of the parts in a personality, and even the conjoint action of the personality on another and the acceptance by it of the suggestion thereby, are mainly noted in the same courses and modes as those by which a personality is brought into relations with all material things —that is, by its senses. Hence we can recognize the suggestive character of a sound, a scent; by a cry, a peculiar aroma, we know that a special man or special unseen animal is within range, and that consciously or unconsciously he manifests his presence and correspondingly suggests certain ideas and emotions to our minds. Still more important forms of suggestion arise when such objects affect the sight: then emotions and mental concepts arise that bring the distinct personalities into states of reciprocal influence and suggestive control becomes expressed.

The clairvoyant not only affirms that he can see, hear, feel, and receive impressions beyond even the range of the most exalted sense-powers, but that he can project any

sense-power into special states or conditions of things in which under ordinary manifestations no sense attributes could be expressed; and more, that sense perceptions can be transmitted to any distance irrespective of space, whether we call the power second-sight, telepathy, the perception of apparitions or clairvoyance. That such powers should pertain to ordinary humanity, and even to many animals, and stand expressed in the attributes of material objects, is and has been, so far as we can judge, a characteristic of human thought in all times and places. But side by side with this general affirmation we have the consciousness of such mental influences that are themselves suggestive acceptations thereof, illusion and mental excitation make the apparent real. We are deluded by expectancy, the love of notoriety, novelty and wonder; the plausible that agrees with our crude mode of ratiocination is accepted as a matter of course, on mere hearsay. Hence there is no difficulty to win the affirmation of the many to the wildest sympathetic appeals, or we should not have had a subjective supernatural kosmos ever overpowering the mental lines of thought. Now we have only to mention these assumed powers of suggestion, those and all the other ultra-natural powers we have considered in another work (*The Supernatural*).

We would, however, here make one general observation on the law of suggestion, and which explains many of its recondite manifestations. The personality does not exist in one state, but in many, passing through a graduated series from the highest form of consciousness to the absolutely unconscious in which only vegetal functions are presented, and in each and every grade, any of the innumerable subpersonalities may be manifest in any of its graduated scale of presentations; more, not only may each of the subpersonalities be thus present in many phases, but the co-ordination may at any stage be modified by ideas or emotions projected out of other stages, or phases of either any subpersonality or the central personality. For instance,

we know that an idea received unconsciously may be projected to the consciousness, and that remembrances may be projected, like Pharaoh's dream, into the consciousness without arising beyond a monition of something vague and indistinct, or they may accrue with every detail fully expressed. So, whilst most somnambulists have two absolutely distinct states of personality in their hypnotic and waking conditions and the memories of events in each are absolutely isolated, there are others who occasionally transfer incidents from the one state, in the form of memories, into the other. This even may be voluntarily. Thus Du Prel's subject, if she wanted to recall an incident in the waking state that had occurred in the hypnotic, tied a knot in her handkerchief, and when her eye fell upon it the recollection followed. Another tied a ribbon round her arm, or a thread round the ring finger, when she wished to transmit to waking memory an idea of the somnambulic state. (*Philos. of Mystic.* II. p. 86.)

In like manner the influence of suggestion, whether by self or others, may be transferred from any one state to another, and many instances which thus may seem to express a clairvoyant character are mere mental revivals in other co-ordinate states. In other words, this implies that the phenomena expressed in the various states may become organic or mental habits, and which become expressed when the influence that suggested them is removed, and the co-ordination is presented in another phase. Thus, as Du Prel says:—"The boy, Richard, though his guardian no longer influenced him, he still came in his ordinary dreams; and Julia, after the cessation of her states of natural somnambulism, still could voluntarily put herself into a slumber." (*Philos. of Mystic.* p. 48.)

As illustrating the projection of impressions from one state of consciousness to another, Du Prel quotes the following cases:—"A distinguished musician in a dream heard a remarkable piece of music. It continued in his

memory when awake, though unconscious of ever having heard it before. Years after—a sheet of old pieces passing through his hands—he was astonished to see the theme of his dream. So Reichenbach said never when awake can I recall the features of my wife, who died twenty years before, but when he beholds her in his dreams she is distinctly present to him. A musical amateur once failed to note down a melody; it occurred to him after in a dream, with full harmony and instrumental accompaniment, and was retained in the waking state. Many clairvoyant dreams are only such transfers of impressions. Thus, Buchner gives the case of such a dream-transfer of a cerebration. The widow of a preacher, disturbed by the loss of a receipt, dreamed her husband came to her and said the receipt was in a red velvet bag in a hidden drawer of the writing desk." (*Phi. of Mys.* II. pp. 18-24.) Thus a seeming clairvoyant incident is explained by unconscious cerebration.

All memories of facts, all the details of organic formations, all instincts, are but deferred suggestions, so there ever remains in the psychical, as well as physical, personality of the organism an increment of every thought, every act, and this permanent increment not only renders like expressions more easy and serves as a guide to their course, but by many like repetitions they are raised into automatic phases of thought, as well as of structure and action. The whole purport of Creighton's *Illustrations of Unconscious Memory* is to affirm that in this way not only have all organic and mental powers been evolved, but habit in all forms of disease, individual and heritable, even neurosis, is but the self-existent memory of a disordered reflex. More, as M. Charcot expresses it, Gratiolet recognized that each sense corresponds to a memory which is its correlative, and that the intellect, like the body, has temperaments which result in the preponderance of this or

that order of sensations in the natural workings of the mind.

There is a wide difference between the principle propounded by Charles Darwin and the modern often accepted theory of self-suggestion. His hypothesis affirms the necessity of innumerable impressions to produce a new result, yet, as Moll writes, marks so distinctive and persistent as those of burns have been produced by suggestion. Thus on a match box, a pair of scissors, a snuff-box, or linen stamp, in their ordinary state, being pressed on the skin at the time it was suggested to the patient that the skin was being burned, then blisters in the form of the object resulted, and the mark remained a long time. This is but the same old tale of the ecstatic stigmas and the extreme class of maternal impressions, all of which fail of the miraculous proof. Have we not had stigmatics who have endeavoured to produce such immediate effects with pins or the persistent irritation of the finger, and when linen stamps and match-boxes on application to the normal skin have resulted in blisters they have not been burn blisters but pressure blisters, as equally efficacious without suggestion as with it. We cannot have a more presumptive proof of the chimerical nature of these assumed wonders than in Moll's statement that Liebault was never able to cause abortion by suggestion. This surely includes the power expressed by maternal impressions and cannot be a higher manifestation than the assumed phenomena of burning.

Many volumes have been written to illustrate the power of will-suggestions over the body, but when we follow up the investigation we find that all the statements that claim an immediate assertion of healing, of righting functions, and at once abrogating the signs of diseased and disorganized tissues, are wholly without truth, or the element of time is excluded, or, more rarely, under the impulse of faith the

evidence of the senses is ignored, as in the following case:—The Rev. John Allen, of Trinity Church, Hackney, affirmed his cure by faith-healing: "My back was just black—I could scarcely crawl—I had a dreadful carbuncle. I said to my dear wife, 'You must be the elder of the church to-night.' She took the oil, put it on my head, and prayed. Then in a moment, like a flash of lightning, down came the power so sweet, so full, so glorious. I jumped to my feet, the tears rolling down, and said, 'Praise the Lord, He has healed me.'" Mr. Allen's faith convinced him that his carbuncle was cured when the carbuncle was as bad as ever. (*Contemp. Rev.* XLVIII. p. 708.)

That the mind acts upon the body and that the body reacts upon the mind, and that external influences modify both body and mind, we may rest assured. What we want are satisfactory proofs of the limits of this power, both in time and space. We, by our own internal sensations, know the mind can be immediately brought to bear upon any local part, any faculty in our bodies, but the application of the principle is limitless in the inferences deduced. We are told in *Human Nature* that a Mr. Judge desired to gain the power of sending his spirit out on adventures of a psychical character. With this view he devoted a certain time each day to lying quietly down in a room alone, and concentrating himself on a certain place, with the desire then in spirit to go and observe the things therein. At first he had not much success, but one day, while sitting in his room, he saw distinctly three lines in a newspaper. On another occasion, while lying with his eyes covered with a handkerchief, he found himself looking at a placard of places and dates. Then in a like state he saw the carpet in an adjoining room. (XI. p. 247.) All these phenomena were simply intensified visual subjective impressions, exalted by the attention to an almost realistic presentation. So it is with the many cases in which the subject describes the interior of houses, what certain individuals are doing,

events in foreign places, and the like. First, there is concentrated attention, if alone, on the thoughts, and earnest but silent appeals to the conscious and unconscious memories, either by sight or description of the place or thing indicated. If it is by or through another, then the attention is equally concentrated on the person or emotions of the individual; leading suggestions are offered, every word is analyzed in its associative aspect as manifesting the untold lines on which the mind works. Much is made out by the direction of the eyes, their volitions, and the negative or assertive suggestions they present. All these tentative feelers are put out by the individual suggester, they are part and parcel of the theory of evidence equally expressed by the Zulu witch finder and the gentlemen of the long robe in our law courts. This is not only the mental process in self-suggestion, it is equally general in the forms of suggestion to others. Of the Mr. Judge we just referred to, it is said that "By concentrated attention he could project his mind into others, even from a distance, and direct their thoughts. Thus I have compelled my child to do certain things by only looking at her and mentally commanding the thing to be done. Frequently I have caused a sentence to be repeated by a person in his conversation having no reference to the matter he had in hand. A man owed him money and failed to come as he agreed, on which I resolved to compel him. I stood up for fifteen minutes, directing myself to wherever he might be, and commanded him to come down and pay me. The next day he came and paid the sum." (*Human Nature*, XI. p. 248.)

Of the nature of the suggestions thus expressed, we note, first, that every strong-willed woman in like manner, by the expression of her eye and volitions, thus controls her children, and also that in conversation much may, and is expressed by the eye and forms of volition without any suggestion of supernal power. So this assumption of a

capacity in the will to cover both time and space in some form of telepathy, to make an unwilling payee come down with the coin, is a pure assumption. In the instance given we read no supernal influence, but a simple, social fact of moral relations. The man had agreed to pay him, but he resented the manner of the claimant, and did not pay on the day, but as he knew the liability he ran of ulterior proceedings, the next day he settled the account. This assumed faith in will to control money payments, if a fact and general, would soon do away with a great part of the business of lawyers and law courts, even as faith-healing, if true, would leave but little occupation for the physician.

Anything we may say of the influence of the will in healing will equally include every form of will self-control, and these can act on the organism or on the mind only on the lines of evolution, neither more nor less. There is no power that can repair a wound but by careful removal of the dead formed matter and the granulation of the plasma and the associate cells, and this implies a series of developments more or less long according to the extent of the injury.

There are, however, other derangements that express not physical injury but only a tendency to organic mental and moral discordination. No tissue may be absolutely injured, no parts, however humble, wanting, but there is a want of harmony in the working of the distinct parts or functions, the distribution of the energy wants vigour and earnestness, or it may be in irregular modes of distribution. Then certain nerves will fail in tension, certain muscles be lax and fail in reflex action, the secretions in various degrees may be in abeyance, and, in short, the co-ordinate relations disjointed and depressed, exhibit various nervous, digestive, and hypochondriac failures in harmony. These disordered conditions oppress and derange the common sympathies and may be neither mental nor moral impulses are in full working order, and the

languid and depressed functions or faculties render the co-ordination unhealthy, and yet, without the actual presence of any disease, it is amenable to all the accidental derangements from depressed, malarious, bacterian, and other forms of external disease inoculation.

It is this long series of tendencies to deranged states, physical and mental, that are amenable to the healthy interposition of the will, and which ensue in the healthy reco-ordination of the personality when under some strong mental or moral excitent, the self-will is influenced in the co-ordinate line of action.

That it is only the energy of the will and not any supernal influence that often result in these faith-healings, will be seen in the following instance:—A lady, who had been on one occasion healed by mesmeric manipulation, or faith in it as a mode of cure, became subsequently unwell, when she desired that the previous treatment should be repeated. Dr. Elliotson made an appointment with her for that purpose, but in the interim it passed from his memory and he not only did not keep the appointment, but never thought at the time of her or her complaint. However, at the time appointed, the lady, under the self-suggestions of the engagement, fell asleep as if mesmerized, and slept well, and this was followed with other like self-induced mesmeric sleeps. Though the doctor failed to write or attend to the case, she continued under the influence of her renewed energy to improve and sleep until she got quite well. Dr. Elliotson writes, "From first to last I never once tried to mesmerize her or to send her to sleep, and I never once thought of her in the evening." (*Zoist*, XII. p. 402.)

Volumes might be written on the modes by which medicine men, faith-healers, and other enthusiasts, have so gained the power of suggestion over the minds of the sick and infirm as to induce the full bearing of the vital energy on the discordination. If the derangement lies within the range of the self-curative power, then a favourable

result may ensue. In all cases of failure, as the Australian says, the boolya of the spiritual opponent is too strong to be overcome. A like greater power is affirmed in the devil in possession when the exorcism fails, or, as in the case of Job, the Divine power fails to respond to the appeal.

Historical evidence of faith-healing is of the most voluminous character, and is presented to us not only by every savage, but more or less by races of men in every stage of civilization. Records of the pristine forms of curing disease by anointing, laying on of hands, even depositing a cast-off disease in the public highway, that, by its taking possession of a stranger, the one originally sick thereof might continue permanently free. Thus a tablet in cuneiform characters describes the priest-healer as taking a bucket of water, and after sprinkling the head of the sick man, pouring the remainder out on the highway, at the same time crying aloud, "May the disease be expelled. May it vanish like a phantom of the night." (*Gliddon, Faith Cures*, p. 5.) A Greek votive tablet records that a certain Caius, who was blind, learned from an oracle that he should repair to the temple, put up his fervent prayers, then cross the sanctuary from right to left, place his five fingers upon the altar, then raise his hand and cover his eyes. He obeyed, and instantly his eyesight was restored. (*Ibid.* p. 11.)

Ammianus Marcellinus says that when the daughter of the Emperor Valens was suffering from an intermittent fever, an old woman, who had a great reputation as a healer of this disease, was sent for. She pronounced certain words over the girl, who was at once restored to health. Aelian writes that Aphasia, a queen of Persia, in her youth had a tumour on her face which extended below the chin. In a dream she saw an old man who told her to pulverize a withered crown of roses from the statue of Venus and apply the powder to the tumour. She did so and it gradually dispersed.

A blind Alexandrian, according to Tacitus, presented himself before the Emperor Vespasian and declared he came by direction of the god Serapis to implore him to moisten his face and eyeballs with spittle, and so restore his sight. Another, who had lost the use of his hand, besought the Emperor, on the same authority, to tread on the affected part. The result of his doing as requested by the god was that both men were healed.

Like instances of faith-healing have been accumulated in all subsequent ages. Kings, saints, and ascetics ever were the special mediators. Thus, Tatian, Clements, Tertullian, and others of the fathers describe instances of faith-healing in their times. In the ninth century oil, blessed by the priest, was distributed in the monasteries as possessing a most potent healing virtue. Cures of various kinds, as effected divinely by Bishop Gregory, St. Austin, St. Cuthbert, Dominic, Catherine of Sienna, Hilarion, Ambrose, Martin of Tours, and an innumerable list of priests, ascetics, saints, and martyrs, and the remains and relics of martyrs in monkish annals manifest the continuance of the powers of faith-healing down to modern times. When these were somewhat stayed the Evangelists and the divinely called ministers took up the *rôle* of faith-healing. Thus Luther saved Melancthon from the depressed state he had fallen into in his illness when he was simply waiting for death, by calling on him to trust in the Lord, as he must serve Him a little longer, and Melancthon afterwards acknowledged that he would have been a dead man but for the coming of Luther.

George Fox, the Quaker at Wodehouse, was said to have restored an insane woman, and he boldly averred that "the Lord made bare His arm and manifested His power." At Baldock he was moved of the Lord for a sick woman. He spoke to her, and the Lord raised her up again. Among some of the cases said to have been cured by these latter-day saints, we have Wesley by prayer healing his

lame horse, a man at the point of death cured of a violent rupture, one female, of tumours on the breast, another of prolapsus uteri, a third of insomnia and the loss of all power in her limbs.

At the tomb of the Abbe Paris, the withered eye was restored, the blind made to see, the helplessly paralyzed again restored to vigorous action; dropsy was removed, cancer obliterated, and sundry other great bodily losses and failures replaced. We may not dwell on the ulcers, sinews, caries of bone, and other affections and derangements, cured by faith in the virtues divinely transferred to holy wells. These and many other powers of faith-healing are fully recorded in Gliddon's learned dissertation on *Faith Cures*, from which we have drawn many incidents.

Faith-healers are to be found in all countries at the present day and in all stages of life. Here it is a shepherd, there the village farrier, may be an old shoemaker or a benevolent rural pastor. But we would more prominently refer to the claims of Divine aid affirmed by certain Churches, and which have separated them from the great body of practical people who depend upon special drugs, ligatures, even grafts from other men or animals, to recoup their organic parts, and under ordinary conditions maintain the powers of recrudescence possessed by the *vis medicatrix naturæ*.

At the present time these supernal powers of healing, though traditionary records through all times are affirmed in Roman Catholic countries, are publicly claimed by the Mormon elders, the ministers of the Peculiar people, the angels, as they designate themselves, of the Catholic Apostolic Church, the majors and other head officers of the Salvation Army, not to mention the more scientific claims of mesmerists, hypnotists, and other special will-healers.

Severally each body has its own special records of faith-cures, which, like those reported at the Bethshan Home

affect all forms of mal-derangement, disease, accidents, loss and waste both of mental powers and bodily functions. Some of these so-called cures are admitted to be incomplete, but surely faith cannot stop half-way nor God half-cure? The Peculiar people pray over the sufferer, anoint him with oil, and wait for the Lord. One young woman, with lumps in the throat, after the anointing, declared they had gone away; the children of another had thus been cured of whooping cough. One man had received a wound on his head on shipboard, it bled profusely, but the minister laid his hand on the part and it immediately stopped bleeding. We read of the angels of the Catholic Apostolic Church, founded by Irving, that one went to his sick sister's bedside and, with quiet dignity, said: "Arise and stand upright," then he took her by the hand and she arose, and in a few minutes was seated at the family dinner table. Another, even by a letter cured Mary Campbell, who seemed the instant before to be dying, and she at once left her couch and returned to the active duties of daily life. So a Miss Fancourt, urged by her faith was desired, though suffering from hip disease, to get up and walk to her family, and the curve passed from her back and she was straightened. With them, however, faith was supplementary to ordinary medical treatment, and when the doctor failed then the Church, in obedience to God, stepped in to heal through prayer and anointing.

So the Salvation Army, now become a Church, make it a fundamental ordinance, that "where men are led by the Son of God to heal or be healed by faith by all means let it be so, and God will be glorified thereby. But where they are not, let them use such means as commend themselves to their judgment." Hence, their officers, when the case seems propitious, make use of the doctrine of faith, if otherwise, they advise the calling in of the doctor. By this saving clause the Church claims all the successful issues, bodily and mental, and all failures thereof are

remitted to the tender mercies of the physician. Thus, one, Brooks, had a lump on his head, the doctors said it would kill him, but he went to the table and prayed, and instantly the lump left him. A little boy, with a pigeon chest, came to the table; God put the bone in the right place while the boy was kneeling, and at the same time cured him of consumption. A child, whose feet turned in, was brought to the table, and he was made straight on the spot. As Major Pearson said: "The best plaster you can put on is a leaf from the 'tree of life.'" (*Gliddon*, p. 131.)

Faith-curing has at various times and in many countries been publicly and with full affirmation of its truthfulness openly presented. Even at the present day, in spite of the school board and the never ending relays of doctors, and the still active endowment of hospitals, the belief continues. It is a simple problem, we have only to have faith and the cure is done, the thing effected. Unfortunately the only ones who say they have faith are the neurotic, the weak-minded, those who are always waiting for Hercules to come and help them.

Faith-healing has been reduced to system, and for a long time meetings for this purpose were held in a house at Drayton Park, called Beth-shan. They were held two mornings in every week. There came the lame, the halt, the blind, some suffering under chronic complaints, some apathetic. This miscellaneous, helpless group were received in the drawing-room, when the ladies, who received them, prayed earnestly for faith, and implored all those present to bend all their mental powers upon the one sole idea of the power of the Almighty to cure. Then there came a strange scene of confusion. There were the efforts of the lame to rise and walk, of the blind to persuade themselves into the belief that they can see, then, according to the power of hope or despair on the mind of the individual, came the mental reaction. Some shrieked, some howled, some

stamped their feet or clapped their hands, making a scene of the most frightful description. After a time, when all became quiet, one of the ladies enquired what cures had been wrought. Sometimes an excited individual would arise, and say that though not exactly cured great improvement has been accomplished. Then cases of perfect healing are read aloud, and the assembly breaks up. A most important admission is made that nervous cases are easiest to cure, as if there ought to have been any easiest to God. (*The Medium*, 1883, p. 214.)

Of the great power of the will in righting a deranged co-ordination, we have quoted several incidents. That it may affect important diseased conditions Sir J. Paget affirms. Even, as he shows, the fear of cancer increased if it did not cause a tumour; so confidence that the growth was not of that nature had caused it nearly to disappear, and then he lost sight of the patient. (*Lectures on Surg. Pathol.* p. 35.)

Not only may the will produce aid to reco-ordination as in the above case, it may induce discordination. Gower, in his *Diseases of the Nervous System*, describing spasms of the limbs, writes:—"When the hand is at perfect rest the movements become slighter, and often cease, but they are renewed by any attempt at voluntary action, and even by attention. In all cases voluntary movement is irregular and difficult, the spasm excited by the attempt producing a peculiar slow inco-ordination." (II. p. 81.)

As cases of self-paralysis of will, we quote the following:—A boy fell from a hayloft, and after having for five years kept his bed, was induced by threats of the powers of electricity, and the incitement of a new sixpence, to get up and move across the room, pushing a chair before him. Two weeks after he was able to run in the hospital races. (*Contemp. Rev.* XLVIII. p. 715.) Noble, in his *Elements of Psychological Medicine*, writes that:—M. Boutibonne, at the battle of Wagram, believed a cannon ball had taken off his legs below the knee, and in that assumed state he laid the whole

night on the field. In the morning he was aroused, and, to his astonishment, found his legs entire. The cannon ball had ploughed through the earth under his feet, his legs went down into the hole, and he feared by rising to stimulate the hæmorrhage (p. 53).

No matter what form of faith-healing was appealed to, the conception of the power of faith had to be strengthened by the solemn mode and manner in which the proceedings were presented, the might of the powers claimed, and the excitation of wonder, fear, and hope, by the presence of suitable surrounding conditions. Gassner affirmed that the majority of diseases arose from demoniacal possession, and could only be cured by exorcism, but his form of exorcising partook of the same modes of action as those afterwards so successfully employed by Mesmer, Baird and Esdaile. Some were satisfied by appealing only to the self-controlled attention in the subject, or to special claims for Divine interposition, but the souls of Mesmer's patients were brought into a state of rapturous ascendency by the influence of the surroundings he introduced. The apartments into which the subjects were ushered appealed to every sense, and tended to magnify the spiritual claims of the operator. Soft lights and mirrors had an illusive influence on the sight, whilst strains of subdued music appealed to but did not distract the ear. Odours gratefully attractive pervaded the voluptuous atmosphere, whilst the old associative influences of the magic cauldron, with its many mysterious forces derived from the chemic and organic worlds, denoted the presence of unknown powers. The presiding presence of this enchanting scene simulated the dress and demeanour of Eastern occults, and his personal ascendency was evinced in graceful but commanding looks, touches, and passes. Nor were these portentous influences brought to bear on only one or two visitants isolated by fear from all their mortal surroundings. But the presence of many gave a sense of security to each, and

when they were linked hand to hand, or joined in a living chain with silken cords, it only needed the continued expression of expectancy in all to render each one's will obedient to the demonstrator, and in the innumerable soul harmonies of the social paradise about them they were assured of the success of their desires. Their mental and physical discordinations were, for the time, out of their thoughts, the vital energy had free play, so no doubt many on leaving thought they were even better than they felt, and after if for a time the old irregular feelings returned the excited and exalted will knew its power, hence the old morbid habits gradually ceased, and the now sustained will sufficed often to continue the renewed co-ordination.

That the induced state, whatever its origin, should affect nerve and muscle and emotional expression is due to its intensity. It is no ordinary sensation to feel that the personality is gliding out of self-control, to know that a will stronger than any social law not only commands implicit obedience even to the most hallucinatory figments it may present to our senses, but that we can manifest no feelings, thoughts, or powers, but what he permits. Well may the weak nervous system collapse into hysteria, and the pliant muscle of the strong man become as rigid as a rock. So under the control of such an overpowering influence we can comprehend the nullity of feeling and perception, the change of personality and desire, in short, the absolute collapse for the time of the normal co-ordination and its assumption of a new co-ordination as the exotic will orders or permits. In many such changed co-ordinations, the sense of colour may be affected, the hearing of certain sounds exalted or depressed, there may be perverted sensations, the memory association, the personality, the moral and emotional nature, and the intellect in its many phases, may one or all be altered, exalted or depressed.

That these powers are not the special prerogatives of the individual manipulator we know. He has no aura, no divine

energy, and has no higher control of our change than has the blow on the head which reduces us to unconsciousness, or the malarial fever that alters our very nature and controls the nervous energy and the circulatory system. More, we know that most of such effects may be self-produced by self-suggestion, by attention, by expectation, some can even be manifested by the influence of material objects.

Any state of discordination may ensue, and the personality affirm any phase from the exalted conscious to that of unimpressionable coma, and in every one of these states any phase of each subpersonality may be presented. In like manner, local temporary co-ordinations may be established, and any organic capacity from the interaction of the plasma, diverse pulsations and local ganglionic action may supervene. Even the subpersonalities may act both mentally and physically on their own resources, as they ever do in long continued coma.

That the exalted power of suggestion, ever called into action by the inward sense of deranged faculty, should conceive it possible to personate the cause and the same as it could create hallucinations of externals, form hallucinations, hence the many assumed capacities to see the disease and imagine remedies. We read of one who saw her bowels quite spontaneously when she laid herself on her bed. At another time she woke suddenly in the night crying out that she saw her brain and spinal marrow. Du Prel relates cases of self-apparent internal disease. One looks into her lungs, another her bowels. Fran von U——, magnetized, described her ear, and saw four little knuckle joints. Nor are these suppositions mere modern fancies. Du Prel quotes from the *Mercure de France* of September, 1720, an account of two Portuguese ladies who enjoyed great celebrity at that time for their diagnoses of disease, one saw into the human body, the circulation of the blood, and the digestive process, and discovered diseases. These seeming superlative powers

express the feverish state of the attention, and the artificial importance ascribed by the mind to the one persistent idea. How much of the information rehearsed may have been first suggested by the doctor or medium, it would be difficult to tell. We have no doubt that "the four little knuckle joints in the ear, one like a hammer, another like a stirrup, the third round, and the fourth small in a tube of water," came originally from an expert, or was gleaned second-hand from a book. Of one thing we are assured, that though so many thousands have been for years wasting their lives in the endeavour to look through a brick wall, or read the transcript of ages of impressions on rock, stone, or wood, or in the living organism, or penetrate to the bounds of space and observe the beings which it enshrouds, not one has resulted in the acquisition of any new idea, the presentation of any new power or form, or the disclosing of a single, till then, unknown attribute of the organic or the inorganic. Every concept they have presented bears upon it in red letters the impress of its hallucinatory origin from the stores of their own memories or from bookish lore, and when not an illusion it is the growth of self-adulation fed by the love of wonder and the love of notoriety.

While we cannot explain the nature of the power of suggestion in vital organisms, we are assured that it advances in a graduated series, according to the range of the mental and physical differentiations and that each instance has its own special mode of action. In some cases the medium used is nerve-force, in others, capillary action. These are general forms, but there are many other silent, unobtrusive physical powers, as forms of attraction, polarisation, endosmosic action, sense activities, and the large series of mental and emotional influences, that may be brought to bear by any one sub-personality on any other or others. The community of influences that work through, and modify organic parts, and are respectively used by the conscious ego, the unconscious energy, and the

subpersonalities, are all the forces with which we are acquainted, that reciprocally act on and are utilized by organisms and organic parts. Many organs and members in their local laboratories unobtrusively work the chemical affinities in our digestive and vascular systems, a great number of physical contrivances are utilized, and innumerable modes of force are being continuously exercised. All the classes of powers that we recognize in the highest developed co-ordination have their special status in each subpersonality, each has its own organic integration, its own mental, moral, and æsthetical presentations; not a cell, not a granule of plasma, but has in its entity the capacity to evolve to the highest state its full differentiation represents. Consequently all vital germs have their own organic attributes, all their physical, and psychical attributes, and these various powers are in action whenever the living entity feels called upon to utilize them.

The power of suggestion in the human personality may be from the conscious ego direct to the controlling energy, or jointly or severally from these conscious and unconscious presiding powers to any one or more of the sub-personalities, whether mental or organic, and they may make calls on the reciprocating powers, represented by the conscious and unconscious wills, or on both. Any subpersonality may hold relations with any other subpersonality, be it mental or organic. These forms of suggestion may be induced by seasonal action, by emperature, by growth change, by the action of organically evolved principles, or special principles due to chemical affinity; by neurotic or volitional influence they may present organic change, or psychical change. The reflex exposition may be immediate or deferred definitely, or subject to other evolvements, as continuous like-increments through various generations.

Adaptations by change of colour, change of form, and change of character, may be excited by external influence

acting on the power of suggestion, and inducing special organic or mental desires, such as those so extensively affirmed of a mimetic character, due as esteemed to self-suggestion by the conscious ego, or to growth energy, or to the expressed want of any one or more of the subpersonalities.

The power of suggestion is essentially a growth attribute, and according to the extent of the differentiation are the general or special natures of the local mental manifestations, and the conditions that influence them. Each differentiated force has its organic limits, yet at the same time as each part has in it not only the special faculty but the elements of all the other faculties, it follows that growth differentiation of any but the normal faculty of the part may induce growth advance in a new direction, and this by alteration in the basal energy of any subpersonality will induce the capacity for transfer, and thus account for disordered or diseased conditions and many abnormalities being restored to normal conditions.

In many cases we may not be able to follow the *modus operandi* and yet feel assured of the process by the result. We will take the case of simple organic repair. Creighton, in his *Unconscious Memory*, writes:—"In the repair of a wound or sore by granulation, the pre-existing tissues of the part are the basis of the repair, they undergo a transformation, they become formative, they furnish the materials out of which the lost structures are more or less perfectly restored. In other words, the tissues of an injured part revert to embryonic conditions. Highly vascular tissues return more rapidly to the embryonic state, the distinction between the vessel-wall and the perivascular or intervascular tissue disappears. The youngest phase of granulation being channels of new blood-vessels, bounded by rows of flattened cells. Besides the making of vessels, the embryonic mesoblast has another and even more fundamental property—the making of blood; and according to Stricker the ordinary red blood may actually be seen to

be produced in granulation tissue, along with the new vessels" (pp. 26, 27). Like instances of reversion organically taking place, so as to enable the formation of new structure even of a diverse kind, is seen in the process of depupation that enables the insect, by reversion of parts and then new embryonic formation, to pass from the pupa to the imago state.

Such changes as we have been describing also illustrate that, as in the breaking-up of the full human co-ordination, its repair may represent degenerate organic mental and even moral conditions. Thus in the *National Review*, June, 1891, we have evidence that moral discordination may ensue from the recuperative process. "The physical conscience seems to repair its wrongs, but this is only seeming, it unites the gaping wound, heals the patent injury. But too frequently it scamps its work and puts in inferior material to repair the breach. The old scar breaks out afresh, after pretence of having been healed for years. In how many cases of rheumatic fever does the body heal the inflamed joints? Cancer frequently takes its standing point from the cicatrix of an old wound. In all cases in which acute disease passes into chronic, the physical conscience has failed in its duty, it has failed to supply cells destroyed by disease with normal cells."

Cope sees in the great developed forms of work the result of the subpersonalities growth attempts to induce harmonious co-ordination in the parts. He writes:—"The automatic involuntary movements of the heart, intestines, reproductive system, &c., were organized in successive states of consciousness, which conferred rhythmic movements whose results varied with the machinery already existing and the material at hand. Circulation may have been established by the suffering produced in an overloaded stomach. Thus might have arisen the contractile vesicle of some protozoa, or contractile tube of some higher animals, its ultimate product the mammalian

heart. So with reproduction. Perhaps an excess of assimilation in well-fed individuals of the first animals led to the discovery that self-division constituted a relief from the oppression of the great bulk. With the increasing specialization of form this process would become necessarily localized in the body, and growth would repeat such origin, as consciousness is still one of the conditions of its performance." (*Origin of the Fittest*, p. 395.) (Appendix C.-D.)

In all distressing, painful, or detergent results of growth action, any one or more of the subpersonalities will utilize the means at their disposal to obtain relief. Thus the portion of an intestine that has knotted is cast off or encysted; in an aneurism the blood works a new channel; a foreign body impinged in an organic part, if actively injurious, it is expelled by the exalted activity of the leucocytes, or, if only mechanically irritant, is buried in cortical substance, or covered with a special nacre secretion, or change of substance. Cope writes that this takes place "in accordance with the mechanical effect of three forms of motion—as by friction, pressure, and strain. Under the first two, epidermal tissues become both dense and thick, the strength of the teeth is intimately connected with the hardness of the food. Density of osseous tissue, and the co-ossification of parts of the skeleton, are directly associated with the force and duration of muscular contraction. It is only necessary for a structure producing supply of nutritive material, to be habitually determined to a new locality by oft recurring stimulus, for the movement to become automatic and reflex, and such a tendency would be sooner or later inherited, and produce structure in the growing organism of the young to a degree far exceeding what is possible in the adult. We can ascribe an extensive series of osseous projections to the strength and duration of muscular contractions. To the same cause may be ascribed various auchyloses, such as is seen in the foot of the sloth. Transverse strains or their absence may

be looked upon respectively as the cause of the hinge-like or immovable articulations of the segments of the limbs of vertebrate animals. In land animals, where easy flexibility of limbs is essential to speed, these articulations are highly developed, whilst in marine animals, where the limbs are only used as paddles, they are almost or quite inflexible, and the extremities of the bones are truncated. (*Cope*, p. 354.) The sensibility to impressions have been the prime essential to the acquisition of new movements, and hence of new structure. Another essential has been memory, without which experience, and hence education, are not possible. The environment governs the movements of animals, and the movements of animals alter the environment. The history of animal life is that of a succession of conquests over the restraints imposed by the physical surroundings." (*Ibid.* p. 357.)

Sir J. Paget observes more than structural adaptations to new conditions in the changes that occur through altered forms of pressure on parts, sometimes they induce the bi-cordinate working of two parts, thus "certain organs stand in their nutrition in a complemental relation to each other, so that neither of them can be duly formed or maintained in healthy structure unless the right condition of the blood be induced and preserved by the formation of the other, as that of the beard and genital organs in man, also instances of commensurate development of the spleen and pancreas of the embryo and mammary gland." (*Lectures on Surg. Pathol.* p. 23.) He notes not only this kind of blood-brotherhood in parts, but prescient and moral intuitions manifested as structural forethought. He writes:— "The exact fitness of every part of a living body for its present office is a marvellous thing, but it is much more so, that in the embryo each of these parts was made fit for offices and relations that were then future, and yet more marvellous that each of them should have capacity

for action in events that are not only future but uncertain." (*Ibid.* p. 117.) We may explain many of these anticipatory concepts and formations to the effect of the law of acceleration propounded by Weismann, and also to that of consecutive changes in one part following from the previous change in another part.

The moral nature of the organic self-government of the subpersonalities is presented in the periodic casting off of parts whose lives are of limited duration, as the worn-out cells of every tissue, hair, teeth, cuticle; so, as Paget writes, the osseous, nervous, and muscular tissues in substance remain, though the materials which compose them are renewed. As with the first teeth, so the first set of blood-corpuscles formed from embryo cells disappear at a certain period in the life of the embryo, being replaced and superseded by the second set formed from lymph and chyle corpuscles. (*Paget*, p. 9.)

Not only do the parts in organisms express moral and associate relations, and the conscious growth expression of coming changes, they carry in their mental effusions the consciousness of undeveloped parts. Thus, those born with congenital, or absent, or imperfect extremities, feel the possession of those parts mentally, also, if separated, they are still felt in their original place, and if amputated, as if they still existed. (*Muller's Physiol.* pp. 696, 697.) This last form illustrates the presence of local organic memories. We read, in the *Library of Mesmerism*, the following case:—"I knew a blacksmith who had his leg amputated above the knee. When healed, he put on a wooden leg. He could then feel his leg and toes as usual, and many times in the day he would, without reflection, put down his hand to scratch his wooden leg. He supposed his leg was buried in an uncomfortable position, and, therefore, haunted its wooden substitute. He dug it up and placed it in a soft cotton bed and re-buried it, but

all to no purpose. He told the physician, who found the corresponding nerve on the stump, and he caused the itching sensation to cease. (I. p. 58.)

We may illustrate the joint action of distinct personalities, under the influence of the vital energy, in repairing various injuries. Each organic part, under such conditions, calls on its own subsidiary faculties, or appeals to the secretive and other recuperative powers of its neighbours, to aid in repairing or casting off the deleterious substance or deleterious influence. Many will have had conscious evidence of such associative activity, and instances are often quoted in Pathological lectures. Thus Wilks and Moxon refer to conjoint reparative action in the case of the achilles tendon being cut. They describe the cut ends as retracting to a distance of two inches, the interstitial space being soon filled up with soft material formed by the surrounding parts, especially the sheath of the tendon. The tendon takes little share in its own repair, its part consisting in a swelling of the cut ends, and a production of lines of new material between its fibres in continuity with that in the breach, by which means the connection between the ends is made firm. "In a specimen, we found a soft material joining together the divided ends twelve days after the operation. Capillary vessels have been seen in the new matter on the eighteenth day." (*Lect. on Pathol. Anat.* p. 92.)

Conjoint action of various parts are often necessary to cast off and expel diseased members or parts of functions—these are betimes noted in cases of intussusception. Thus the author we last quoted speaks of fragments, in all of twelve feet in length, of intestine being separated and expelled. In another case, a child of eight years, after eleven days' obstruction, passed the cæcum and ascending colon, and recovered. (*Ibid.* p. 419.)

If foreign bodies become impact in the organism like joint action is induced. Thus, during life, coins and pieces

of bone, and other foreign substances, in various ways may pass into the trachea; there they move up and down through the joint action of the impinging members, which utilize their special volitions to expel the intruding substance. It is first passed into one bronchus, then into another. In the Pathological Museum is the case of an ear of corn which had been, probably in amusement, passed through the mouth and then drawn into the trachea. It had been worked downwards into the lungs, and then, by their expansion and contraction, had worked through the walls of the chest, where it ulcerated, formed an abscess, out of which it was extracted on the left side of the body. (*Ibid.* p. 321.) In like cases, needles and pins have been often extracted from various parts of the body after having been swallowed by deranged patients.

We may ultimately, by associating and classifying the special forms of organic activity, acquire a full knowledge of the modes of action manifested by the diverse personalities constituting an organism, their modes of operation, and the remedial agencies they induce. We already know that by local exaltation in various ways we may supplement the natural methods of the parts, and that by certain generally toxic agents we can stimulate in many faculties and parts like re-agentary action as is organically produced in many aberrant organic and mental conditions. We want more immediately to study the normal and abnormal conditions of each simple and multiple personality.

Not only are there definite conjoint activities between the consciousness and the parts, and between the general organic energy and the parts, but certain parts among themselves seem to form committees of safety, conjoint relief associations, and to have their own telepathic modes of intercommunication. Thus the special senses possess reciprocal influences. Professor James writes that impressions on the eye, skin, &c., are in some persons accompanied by distinct sensations of sound—coloured hearing, it has been

called. All our sense organs thus influence each other's sensations. Thus the hue of patches of colour not recognized by distance, were immediately perceived when a tuning fork was sounded close by the ear. Sometimes it was darkened by the sound. The acuity of vision was increased so that letters too far off to be read, could be read when the tuning fork was heard. Smell, taste, touch, sense of temperature, &c., were all found to fluctuate when lights were seen and sounds heard. One example is the increase of pain by noise and lights. (*Princip. of Psychol.* II. p. 30.)

The forms of organic mimicry which have lately been expressed in so many diverse results, imply, in their specialities, various forms of conjoint association by the organic and mental personalities. Generally they have been accepted as being induced by desire in the conscious will, and that the result of mental collaboration is worked out by the special organic parts. Thus Cope says (*Origin of the Fittest*, p. 212):—That colour changing at will, by the expansion under nerve influence of special pigment cells, exists in most batrachia, reptilia, and fishes. They can thus voluntarily assume the hue of leaf, stone, and bark, or have constantly the grey colour of their native desert sands. Weismann writes of the caterpillars of *Smerinthus tillæ*:—"As soon as the caterpillars are hatched they commence to nibble the empty egg shells, then they run about with great activity, and after several hours take up their position on the largest vein on the underside of the lime leaves, where they remain. In this situation they have the same form and colour as the leaf vein, and are very difficult to discover, which would not be the case if they reposed obliquely on transversely to the vein." (*Studies in Descent*, p. 234.) Karl Semper notes that "species of the genera Leuciscus, Gasterosteus, Cobitis, and Perca, change colour with rapidity, some in a few hours, others in two or three minutes; and many splendid

coloured sea-fish have the power, often in a quite extraordinary degree, as a species of Serranus; other animals assume a protective hue, this is due to the expansion or contraction of the pigment cells." (*Conditions as they affect animal life*, p. 94.)

All colour protections are not dependent on the will; some are induced by the character of the food, in others the various parts assume, under special conditions and at varying times, the type of colour of surrounding objects. And, in like manner, the self-protective influences act through the growth-powers in the subpersonalities, as the emanation of offensive odours and fluids. Phosphorescent light, shaming the capacity to sting, growth of spines, horns, coriaceous shells, local mimicry of parts of other protected members. The mental power of inducing change of attributes may be general or may only be manifested by isolated parts.

In like manner the mental powers that present the attributes of diverse personalities may accrue from a general re-arrangement of the co-ordinate personalities under which, as in a varying co-ordinate state, a new acting ministry supersedes the past form of government, and the personality of the state is altered. Some new forms of personality only represent the discordination of special parts. As Professor James writes :—"Some patients feel only as if they had lost parts of their bodies, teeth, brain, stomach, &c. In some it is made of wood, glass, butter, &c. In some it does not exist any longer, or is dead, or is a foreign object quite separate from the speaker's self, or parts of the body are treated as belonging to another person. Thus, the right hand may fight with the left as with an enemy." (*Princip. of Psychol.* I. p. 377.) To illustrate the nature of a changed personality, the same writer observes its similarity to a caterpillar which suddenly becomes a butterfly, having at once all a butterfly's senses and sensations. The new feelings find no

anterior series to which they can knit themselves, the patient can neither interpret nor use them, he does not recognize them, they are unknown. (*Ibid.* I. p. 376.)

An insane altered personality may not represent an actual organic identity, it may present any conceivable change of a subjective character. James describes "a woman who has been many years insane, and always speaks of herself as the rat, saying, 'bury the little rat.' Her real self she speaks of in the third person, or as the good woman. She has, during periods of depression, hid herself under buildings, and crawled into holes and under boxes. She was only a rat and wants to die." (*Ibid.* I. p. 379.)

Betimes the change is only in the consciousness, and represents the total loss of all preceding memories. Thus, "Mary Reynolds, of Pennsylvania, was found one morning in a profound sleep, and after eighteen hours she awakened in a state of unnatural consciousness. She was as a being for the first time ushered into the world, she retained a few words only, as purely instinctive as the wailings of an infant, they were connected with no ideas in her mind. All her relatives were unrecognized, she had never seen them; so to the scenes around her she was a perfect stranger. She had not the slightest consciousness that she had ever before existed. She had lost the arts of reading and writing, but from the organic habits still held by the parts, she, in a few weeks, learned anew to read and write. Her emotional nature was changed; instead of being reserved, she was buoyant and sociable; formerly taciturn and retiring, she was now merry and jocose. She was now extravagantly fond of company, was enamoured of nature's works, and rambled till nightfall over the country. She had no fear of bears, panthers, or rattlesnakes. After about five weeks, she awoke from her sleep and was herself again, recognized the family ties, and went about domestic duties as before. The whole period, and the changes in the natural world to her seemed of only one

night's duration. Her ramblings, her tricks, were all past. After a few weeks she awoke again in her second state, and these alternations continued for fifteen years, but finally ceased when she was thirty-five, leaving her in her second state, in which for twenty years to the end of her life she continued." (*Ibid.* I. p. 381.)

It is seemingly apparent that in this change of the whole personality we have recorded two classes of phenomena. First, we have two distinct arrangements of the many personalities; and, secondly, the abnegation of the greater part of the acquired powers in the transformed state. Now if, as we hold, each subpersonality works individually and has its own mental as well as organic attributes, and also that it may combine in associate action with any of the other individual or collective subpersonalities, it is possible that some of them, acting singly, might retain their memory expressions through any two or more forms of distinct personalities. Thus we note that it is extremely rare for the subpersonal modes of volition, either in the activities of the senses or of the limbs, to be changed, but the mental results in the consciousness of several of the personalities can only respond when those personalities are acting in unison, so the memories of acquirements and experiences are rarely present when the organism exhibits two distinct personalities, and according to the extent of the accordant variations are the resulting differences.

There are cases in which more than two personalities are represented in one human personality. M. Janet had such a subject, which denoted grades of distinct co-ordinations, so that in some things the consciousness of its own two states were blended, and the links of the connection were present in the activities of the same senses. Thus Leonie, in her first state, had visual consciousness; as Leonie the second, she had both visual and auditory consciousness; and, as Leonie in the third state, she had visual, auditory, and tactile consciousness.

CHAPTER V.

The Power of Suggestion over other Personalities.

The individual personality, having so many interrelations with its subpersonalities, is also open to influence from other personalities. In the general normal state many of these forms of transferring suggestions from one human being to another have been prominently expressed. Ever men and women have been amenable to receive suggestions through the emotions, through the intellect, and in relation with every physical and moral attribute. The commanding *personel,* the great intellect, the lofty moral or even emotional nature, appeals to those of less calibre, and by transferred suggestion stimulates and excites the desires to like lines of development. Our moral and intellectual natures are surcharged with exalting suggestions by sympathy, by fascination, by every manifestation of power beyond what we estimate is presented by our own capacities, and we draw into our own natures the energies thus transferred to our faculties by impulsion from others. This capacity of imbibition is common to all our faculties, and is the source of all social co-ordination, ever corresponding to his presentments is the natural influence of each man.

The world is full of instances in which the interaction

of men and women have passed beyond the ordinary accepted phenomena of social interrelations. Ever some commanding will, intensely attractive personality, or greatly influencing emotional nature, gains such an ascendency over another human personality as to render every energy in its being subservient to the commanding will. This power may be observed in every clique, every social aggregation, every form of association. Here its basis is founded on sympathy, there on personal attraction; now it is manifest in subservience to political or religious influences; betimes mental fear is subservient to higher moral will. Such special controlling attributes, in innumerable cases, are present to each one's consciousness, and the records of humanity are full of instances of these more or less normal applications of sympathetic affinities. So extraordinary betimes have been the instances in which one personality, not necessarily discordinate, has been reduced to subserviency to another personality as to excite in the wonder-stricken onlooker the concept of preternatural influence. It could not be, they conceive, possible without supernal magic, witchery, or charms, so to render one organism subject to such fascination. In former times, this was the only explanation presented for the most marked affirmations of will commanding will.

Of late years, however, new theories and new principles of the power of one will over another have been presented, each more startling than its predecessor. The old magicians, it is true, claimed by special material charm-forces to coerce not only living men and the ghosts of dead men, but the embodied demons of evil their own violent wills had created. Now, however, it is affirmed that any neurotic girl, any crafty self-willed manipulator, may not only render the more feeble-minded subservient to their influencing suggestions, but that they may freely commune with any spirit-angel or power they desire. So vast are these influences over the living and the dead, and those

natures which never knew what life was, that they compass not only the supernal attributes expressed in all myths and legends, in folk-lore, and every form of the philosophy of wonder, but they encompass, as if by prevision, every later exposition of science.

There seem to appear in vague traditionary records some prenumbrations of the powers now known as mesmerism, animal magnetism, and hypnotism. Certain initiators into mystic affinities and prescient priests appear to have been acquainted not only with the neurotic powers of toxics and the influence of the surrounding conditions and various personal abstentions or excitements, as mental transferring powers, they would also seem to have acquired some personal cataleptic powers capable of individual application. No doubt at all times the wonder-lover and the crafty intriguer have claimed capacities of suggestion far beyond the possible. It is the tendency for human beings to over-estimate the attributes of anything in which they feel a great interest, and that, too, without any ulterior immoral or selfish intent.

As all the psychic influencing powers claim the same general affirmations we shall consider them as one, more especially when we note in how many diverse yet like ways each assumes to present their special manifestations. As, we presume, the general reader is acquainted with the various modes of psychic forms of suggestion, to fully comprehend the new powers affirmed we will at once select diverse descriptions thereof.

"Mr. Braid put ten full grown men, out of fourteen, into a complete state of sleep, by causing them to fix their eyes steadily upon pieces of cork fastened upon their foreheads. In three minutes the eyelids of the ten involuntarily closed. With some consciousness remained, others were cataleptic and entirely insensible to being stuck with needles, others knew nothing of what had taken place during their sleep. 'I have repeatedly,' he said, 'placed women in the hypnotic

state, and performed surgical operations without the least sensation having been experienced. One lady I cauterized with a red hot iron on the spine, having previously hypnotized her by causing her to look for a few minutes at a cork fastened on her forehead. The sleep was so profound that she not only did not hear the sound produced by the burning skin, but loud noises close to her ear.'" (*Hammond on Nervous Derangement*, p. 24.)

In the *Alienist* we read that "the individual is put to sleep, but the experimenter by addressing him has the power of awakening in his mind a given order of ideas, sensorial images, which in certain cases reach such a degree of exactitude, vivacity, and precision, as not to be distinguished from realities. From this facility of provoking and diverting ideas and images in a hypnotized subject, some have endeavoured to establish the belief that those magnetized by them have acquired the power of seeing places which they have never visited and of being present at far distant occurrences. A subject who has fallen into the hypnotic state by an able experimenter, will give a vivid description of a country which he does not know farther than as it corresponds to the image that has been created in his mind, not as it really exists. Several facts, observed with scientific rigour, demonstrate precisely that the descriptions of objects, places, and persons, given by the magnetized are, for the most part, creations of the imagination, since they do no more than relate what they have heard said, have read in books, or seen in pictures. The visions approach the closest to the realities the more exact the idea entertained by the magnetized. Thus a somnambulist, questioned by Maury about the city of Algiers, gave a description of it in which it was easy to see that he was not relating a visual impression, but his rather vague recollection of the place."

With regard to this power it is claimed that in the hypnotic state the perceptive powers of the percipient are

rendered dormant, and that she tastes, sees, thinks, and wholly manifests the attributes of the mesmerizer. Thus sense impressions pass from the medium to the hypnotized subject, who feels any external impression made upon his senses, as pricking, punching; taste impressions, as bitter, sweet; and is also influenced by the same impulses that the medium manifests, as eating, drinking, playing musical instruments, reading, and so forth, when he simulates those actions. So in like manner a community of internal sensations and emotions are affirmed, even the thoughts are induced to flow in the same channels; more, by mental suggestion hallucinations of all kinds can be evolved in the mind of the hypnotized, and size, time, distance, have no restraining influence, objects may be enlarged or minimized, exalted or debased in their various attributes, made present however distant. In like manner, speech, sense-power, will, and memory are under the inspiration of the controlling will, and the memory of things, of names, even of his own name, of words or letters, and any or all his life-series of memories, may be obliterated, and he be another being, man or animal.

Of the new powers inferred to be induced under hypnotic influences, some being the wildest flights of erotic imaginings, we shall shortly have to consider. We will now dwell on the illustrations of transferred mental and organic powers, and endeavour to trace those more recondite mental forces on which they are founded. We may note that the general capacity to remit power is not limited to man, but may pass from man to animals, and is equally capable of altering the impressions of the savage as the civilized individual. Thus at a station in Van Diemen's Land a female aborigine was mesmerized; pricking her hand had no effect upon her, but when the medium's hand was pricked she immediately withdrew her hand and rubbed it. A dog's paw was put in her hand, and the animal's ear pinched, when she immediately began rubbing her own ear.

Honey put in the medium's mouth, she declared she tasted sugar; and salt had a corresponding effect, and induced a tendency to vomit. (*Zoist*, VII. p. 298.) As illustrating the transfer of a thought-emotion into the volitional presentation of it, we select the following:—At a *séance* a young lady became obedient to the volitions of the lecturer. On being told she was sad, she assumed the action of a Niobe. She was then told that her father was in great affliction. She gazed fearfully at him for a time, clasped her hands wildly, and threw herself back in a passion of tears. Then relieved by the lecturer, she smiled with wonder at her strange delusion. She was then told the company were laughing at her, and she looked round fiercely and panted with suppressed rage, and twisted her handkerchief like a rope between her hands and plucked at the two ends as if to tear them asunder. (*Ibid.* VII. p. 109.)

However singular or novel may be the influences manifested under hypnotic relations, they all have the same nervous and mental relations as other special nervous and mental states. Hypnotism, somnambulency, dreaming, lunacy, and conditions induced by toxics, are all more or less in affinity, and the individual subject to their abnormal influences presents, more or less marked, like derangements of co-ordinate presentations. The personality is modified, the senses vitiated, the nerves in abnormal conditions, the conscious and unconscious memories deranged, self-control, moral and reasoning control alike neutralized, and the unreasoning mind left open to the influence of another's will, or, even a breath, a sound, anything that may act on the paralyzed sensations. All the phenomena of the hallucinations thus presented are the revival forms, however mingled or fragmentary, of the conscious or unconscious memory impressions, and there is nothing more of the supernatural in the delusions of the hypnotist than in the vagaries of the dreamer, the lunatic, and the individual under the influence of toxics or toxic conditions.

They all represent physically induced nervous conditions, and mentally, the subjection or non-activity of the reasoning powers and the dominancy of revived subjective ideas. The lunatic, like the hypnotist, has his senses in abeyance, he does not feel normal pain, see, hear, or touch objectives as they are, but as an internal or external suggestion defines them. The hallucination may have its origin in subjective memory presentations, in the prominent influence of an external material presentation, or be purely hallucinatory. As the suggestion in a dream of an individual's name will awaken the dreamer by its special appeal to the dormant consciousness, so, in like manner, it will arouse the hypnotist from his illusory state. Almost passively in the one state, voices, movements, and other applications to the senses mould the dreaming thoughts through the ideas they suggest, so with greater vigour, as more actively interposed, the commands of the operator coerce the hypnotized.

More, have we not in dream monitions, in dream prescience, as well as in like states induced by toxics, and in ecstatics, as well as in some other forms of lunacy, similar enunciations of supposititious powers and supposititious influences, as well as in the exalted memory and sense presentations they give forth? Post-hynotic suggestions are necessarily remitted to the same subconscious influences, as are all unconscious cerebrations, and not only have we ever going on in our organisms this large class of cerebrations which the volitional ego cannot influence, but there are the whole series of intersuggestions ever being displayed by the subpersonalities, some of them post-suggestions, whose hereditary history has been enforced by the hypothesis of Charles Darwin, and its structural exposition as persistent cerebrations by Creighton.

Deferred and post-hypnotic suggestions are only analogues of structural memories and instinct memories. There is not a tissue or member of our organism but is suffused with such impressions, and if, as has been said, the touch of

a falling leaf or the breath of the passing wind ever leaves its impress on the granite mountain side, surely there is the impress of every thought not only on the present, but on every resulting mind. The unconscious cerebrations we term life and growth not only act upon the parts to which they are immediately attached, but more or less upon all members. Hence, the mass of interactions ever proceeding in one of the higher organisms is prodigious. We have not only the organic interactions projected by the volition of the ego, the great viceroyalties of the brain and heart, there are the controlling departmental jurisdictions of every function, the parochial integrations and repairs of every tissue. The army of distributors have their own cordons, while innumerable sub-committees administer the special details in each gland and an excretory police remove all superfluities and enforce all necessary supervisions. Nor are the mental workings less highly organized; each sense, each perceptive member, recognizes its special duties and is attentive to all warning indications, at the same time, if an associate fails to respond, they rush in to supplement the task. More, while each sense is fully occupied with its special duties, relays of assistants register every perception, every thought deduction, or attend on the working mental boards to supply any needed quotation, record, or presentation.

The power of suggestion is the preliminary element in all these interactions among the distinct personalities. An aura, a vibration, a current, a something of the nature of a power, goes forth from one to another; it may be mutual and represent affinity; it may be personal and signify control, mental or physical. It may be only in relation to one emotion, one form of mental activity, one moral power, or it may be a general influence entering into, and overriding the whole physical and mental personality. The capacity to give and to receive mental suggestions, requires that special receptive energies should be present in the

personality and the subpersonalities, and these, like all other mental and physical volitions, may grow into habits and be expressed without any preliminary manifestation. It is under such conditions by the varied increased or reduced distribution of the general energy that all the many transfers of powers and conditions ensue in the personality.

There are none but must be more or less familiar with the existence of this power of transference, and the many distinctions in the personality that thence ensue. More, the interchange may accrue in normal or abnormal conditions, and under varying states, consequently the interchange may be real or seemable, subjective or objective. The series of hallucinatory or illusive interrelations may be as extensive as the normal interactions, and what we conceive comes from another personality from without, may be only an abnormal presentation of our own personality. All are conscious that in dreams their moral intellectual and emotional personalities may be changed, so may their volitional powers, they may, in that state, or in forms of lunacy, appear to themselves or others as presenting other than their real personalities, though whatever they call themselves, however much the memory ideas may be lost, there are still some links that present the central personality in all the changes of the multiple consciousness.

Thus our personality may be projected into another's consciousness, and control or fascination may be real phenomena, or they may be only subjective. The wehr wolves we become in dreams or lunacy, only exist in our own thoughts, and we project into the subjective creation only disturbed mental memories, though they appear to our personality as realistic. We had lately one such dream hallucination of a weird character. In the dream we seemed lying down on the grass near a garden bed, in which a tall sharply-pointed agave presented itself to our perceptive powers. All at once we became conscious of a remarkable

volitional activity manifested by the plant. It seemed in a tremor of excitement, it heaved and bent and jerked about until we became conscious of self-evolved effort that it struggled to burst from the earth, ever directing its points towards us, until we recognised that with suffused malignancy, it was endeavouring to tear itself out of the ground and hurl its dagger point into our body. Each leaf and spine seemed to rise spitefully, as if the savage influence was common to all the parts. All the time I was powerless to move, and conscious that I could by no power of self-will escape. All my active energy was transferred to the plant and the subjective object of my fancy was the representative of my forces; it was no outer personality, but a dual of myself, a portion of my own co-ordination personified. It was only when the agave in its reflexed personality became conscious, like the subpersonality of the madman, that its manacles were firm, that the stay would hold, renewing in both cases the co-ordinate workings, and the paralysis of the muscular power ceasing, I awakened from the dream.

All changed personalities, all concepts of dual and multiple personalities, all organic and mental derangements, represent but the varying presentations of the co-ordinate elements that constitute a single personality. These may be all discordinate, each acting for itself, they may group themselves in two or more divided personalities; any one or any number may be dormant, or deranged, or become more exalted by the transfer to it of a fuller supply of the common energy. The coma may be so general that only the subordinate vegetative functions can be indistinctly recognized, or another personality may exist in its own body. Even the outer world may be full of angels and glorious beings, golden presentations of objects, groups and scenes, manifestations of presences, divine, human, or monsters built up of the horrent semblances in the natural world. As with forms, so with powers, however special, mysterious, or seeming supernal, they all have their origin, development,

and full presentation in the individual's own personality. There is nothing beyond the natural world common to all normal personalities, and every such conception of an *outre* aspect seen, felt, or conceived, by a human personality is only a projection from its own personality, an exaltation of its own powers, or a subjective presentation from its own records derived from the natural world.

In the many distinct forms of abnormal personality or groups of personalities that may thus possibly be manifested by any human co-ordination, by innumerable indications we are always assured that the group of subpersonalities ever work to restore the normal co-ordination, both mentally and physically, and when, by the passive working of the parts, such renewal fails to be introduced, it is possible for the local member or the mental faculty to, in parliamentary language, bring pressure to bear upon the central consciousness as at once to restore the due equilibrium. We may take a human subject in a state of coma, an epileptic, a drunken man, a lunatic, a dreamer, somnambulist, or hypnotist, and we shall find there are limits to the active manifestation of the subordinate phase. Men under those conditions may perform many aberrant actions, but, like the mad elephant who carefully passed over the child that had been once left under its protection, certain normal habits grafted into the mental thought, rise up to check the local discordinations.

Many writers who have seen the power of the hypnotist and medium in controlling the will, and the organic nature of those under their influence, have dreaded that the possession of such control over another might tend to the perpetration of great crimes. The novelist has accepted and utilized the suggestion, and we have had tales in which the mind of the hero has been as supple wax in the hands of the old magicians, or lead to the alchymist, a something he could do as he pleased with, controlling not only nerves and muscles, but the mental and moral natures. But there

are limits to all capacities, both for good and evil, for exaltation and discord. The mentally aberrent, in all the discordant forms we have presented, may act on their own suggestions, even to the commission of all crimes, but unless taken as a ruse or lark, they never fail in important immoral suggestions coming from others. Thus Dr. Beard says:—"The very suggestion of crime or serious evil doing of any kind to a mesmerized subject, seems to have the effect to restore the equilibrium of the brain, like a physical jar, knock, or push, and he comes out of the trance sufficient to resist the suggestion. More, Mr. Grimes, who had devoted his life to the practical study of the subject, declares that subjects, even when fully under the influence of the operator and ready to act according to the suggestions he gives, will not do an indelicate thing. Say to a young man, who has gone into a mesmeric trance, that he is a lawyer and the jury before him, he will proceed with an eloquent plea; tell him he is in an orchard, and the ground covered with apples which he may distribute to the audience, and he will do so. Hand him a broom-stick and say it is a lady, he will put his arms around it; give him a brick and tell him it is a baby, he will hug it; but request him to expose his person he will at once refuse, the suggestion bringing him out of the trance." (*A new Theory of Trance*, p. 37.)

It is apparent from many incidents that the consciousness, and with it moral power, the perception of right and wrong, are never wholly aberrent, but in absolute coma or the chaotic derangements of delirium. Attention may be apparently negative in the intermediate diverse states, our wills under other influences, but let the key-note of impulses grossly antagonistic to the normal reason be struck and the quiescent or deranged conditions pass away and the higher faculties of the being are aroused. These diverse states, as Du Prel writes, represent positive and negative attention. In the former state we are conscious

of all that goes on about us, we hear all that is said, see every person and object present, are affected by every impression on our senses. In the latter state, at a public entertainment or amongst mixed people and in occupations in which we feel no interest, all actions, all movements, all words, that have no connection with us pass unheeded; but should our name, or the name of any one familiar to us and in whom we feel an interest be mentioned, or an action that appeals to our inner thoughts, instantly attention is awakened. So sleep-walkers awake if their name is said, and many hypnotized awake by the utterance of their names. (*Phi. of Myst.* II. p. 100.)

The same power of self-caution and moral control pervades man in all moral abnormal states; the sleep-walker, the epileptic, the drunkard, the lunatic, always present us with signs which intimate how much the habit of self-preservation, of moral control, has become part of our very nature. Watch the expectant epileptic before he is stricken, the movements of the drunkard and the sleep-walker, and we may recognize not only unconscious cerebrations, but unconscious volitions, the reflex actions of organic and mental memories. There are narratives of sleep-walkers, of lunatics, of incipient epileptics, having made long journeys, conducted various items of business, even held converse at inns and other places, taking railway tickets, and in all respects conducting themselves as if they were in the normal state, and yet conscious memory and will mere automatisms. Sometimes some eccentricities of manner may expose them, but in general, as in the case of Maury's somnambulists and the sleep-walkers described by Holmes in his *Mechanism in Thought*, they are scarcely noted as other than odd folks. We have a case of epileptic automatism in Braithwaite's *Retrospect of Medicine* (CII. p. 161). A clerk in the city, subject to epileptic attacks, was one day sent to a merchant's office; on entering, he recollected experiencing his usual aura of an

attack of *petit mal*, but remembers no further. It appears, however, that on entering, he pushed the merchant out of his chair, sat down in it himself, and displaced all the papers on the desk as if searching for something. Then he got up, without taking any of the papers, left the office, and passed through the crowded streets to his own office before he recovered consciousness. Then, ignorant of how he had acted and conscious of what he had to do, he returned to the merchant's office and did his duty in his usual deferential manner. If it was not a fact that in the various states of discordination we specified, automatic reason and moral principles retain a hold on the consciousness, we should have many more personal catastrophes in those states than now actually occur.

As with moral, so with religious impressions. The dormant consciousness arises with resolute energy at any suggestion that militates against the doctrines that have become to it a second nature. Thus, as Moll says:—"Suggestions are made with success to a devout Catholic, but the moment the suggestion conflicts with his creed it will not be accepted. A subject will frequently decline a suggestion that will make him appear ridiculous. Thus a woman could not be induced to put out her tongue to the spectators." (*Hyp.* p. 172.) That a conflict between the will and the controlling influence often ensues, was noted by Beaunis, who observed that an attack of hysteria is sometimes the answer to a repugnant suggestion.

Even post-hypnotic suggestions are declined. Many only carry those to which they have assented. Resistance is expressed in slow and lingering movements. If the action is repugnant, the more likely it is to be omitted. (*Ibid.* p. 173.) With the weak-minded, the moral sense may be dulled by specious suggestions. Thus a subject was to be induced to steal a watch, but when he resisted, it was suggested that the watch was his own, on which he accepted the command. (*Ibid.* p. 174.)

That external suggestion becomes self-suggestion, and thus directly influences the will, and through it the co-ordination, is evident from the following case given by Moll. He writes :—"I say to a hypnotized woman, 'After you awake, you will take a book from the table and put it on the book shelf.' She wakes and does what I told her. When I ask her what she has been doing, she answers that she has moved the book from the table to the shelf. When asked for her reason, she answers, 'I do not like to see things so untidy, the shelf is the place for the book and that is why I put it there.' In this case I suggested an action to the object, she does not remember my order but believes she has so acted in her own accord. (*Ibid.* p. 151.) The fact is, we err in inferring that the will of the operator, as a mental power, overrides that of the patient. There may be no mind-force present, and yet like results ensue. Thus in a dreaming state, any expression from material objects acts as a suggestion on the mind of the sleeper, but the form it takes comes from within, and is an expression of his own passive consciousness. So it is with the hypnotist subject, the impulse from without merely works the mind into a given line of thought, which it accepts as of its own inception, and it is this self-suggestion, modified by its own moral and religious instincts, which influence it; then, as Moll says, the subject, questioned on an action, remarks, the impulse to do as he has done came into his head when under the moral impulse; they have evolved reasons for their conduct. The mere impulse represents one co-ordinate phase, the higher moral control of the impulse denotes a more conscious state.

The mental self-influence is manifested in a succession of stages from the coma state to the loftiest moral and intellectual. In the deepest dreams there is no external influence on the mind, whether by natural impressions through the senses or by hypnosis. A grade higher, some

actions by externals, and suggestions by others may take effect and the hypnotist and dreamer may have the tone of their thoughts directed from without, but ever, as the automatic faculties come into action, and subsequently the moral consciousness, the reflexes of the self-sustained expressions become more as the natural wakeful state. Then few are passive under suggestions, "they begin to observe themselves, and the suggested action is opposed by the natural disposition."

The forms in which automatic judgment and moral sentiment work are various; in most cases they are quietly and passively exhibited without any demonstration, at others, persistent talking, volition, sustains the effort. A confidential clerk, in charge of the valuables of a firm, was in the habit of ever keeping on naming to himself what he was doing. He felt obliged to get out of his bed in the middle of the night and go down to the city, saying over to himself, all the while, what he was doing. But no sooner was he away from the sense experience of the cash, than he was again in doubt of its existence and wanted to go back and verify it. (*Contemp. Review*, XLVIII. p. 713.)

In the higher hypnotic state, when the consciousness subjects all external suggestions to a rational inspection, there may arise, consequent on the dormancy of some powers, special ecstatic and intellectual manifestations. Then, as Moll says, "the hypnotic subject makes a logical use of slight external impressions, which often suffice to put him on the right track. Much apparent clairvoyance is a consequence of this heightened faculty of drawing conclusions. Many subjects are also helped by the hyperæsthesia of their organs of sense which enables them to perceive things ordinarily overlooked. The prophecies and predictions of *somnambules*, and other such persons, often depend upon the logical utilization of such significant impressions." (*Moll*, p. 163.)

The capacity to accept impressions, subjectively and

objectively, are common to all states of co-ordination. In the higher evolvements they ever remain distinct, and are recognized as either present or remembered personations; in other states, as well as hypnotic, the enfeebled will, always in abeyance, is liable to be guided and controlled by outer influences. There are many men who, in their ordinary waking state, are subject, as the hypnotist, to the influence of more commanding wills; they affirm another's impressions, and are as supple as the controlled hypnotist. They accept the hallucinations of others as realities, and see ghosts, smell flavours, and are affected by sounds, the same as the suggestor. In all these cases the primary power may be outside their wills, but the sentiment educed is evolved from their own personality, and constituted not of the ideas in the mind of the operator, but from the stores of their own memories. As Dr. Beard writes:—"It makes no difference as such what you do to produce mesmeric trance, it makes no difference who does it, it is a subjective matter entirely, and all depends upon the emotions of the subject, what he fears, expects, or wonders at. The operator may be an absolute ninny, but if the subject believes in him, that is enough. He may make the passes up and down or crossways, with his fingers or with his hands, or make no passes at all; he may sit perfectly still, his presence is not necessary, he may be a thousand miles away, he may have been dead and buried a thousand years, he may never have existed, but if the subject believes he has existed, or that he is raised to life, and expects or fears he may have power to put him in a trance, entranced he will become." (*The Scientific Basis of Delusions*, p. 10.) More, trance may be induced physically or psychically by injuries of the brain, protracted disease, or starvation, over exertion, anæsthetics, alcohol, and drugs, as well as cerebral disease. Sleep may be an inciting cause, it may be self-induced.

When there is no outer suggestion, even of the most

trivial character, the discordinate will, too feeble to depend upon itself, creates an external seeming coercing force. Such are the hallucinatory powers coercing the insane: the demons which possess it, the mystic powers that rule it, the angels and saints which guide it; these may be voices, spectres, monitions, and impulses, urging, commanding, entreating. Very often the creations of the somnambulists and the insane are due to their general state of health. Thus, Du Prel says:—"With Magdalene Wenger the spasms and the guide were concurrent, he disappeared with the sense of alleviation, and she, mistaking the cause for the effect, said he had taken away the spasms. When the alleviation is partial, the good and bad spirits are in conflict, especially in possession. Every remission of pain is represented by a friendly figure giving help." (*Philos. of Mys.* I. p. 119.) The *somnambule*, like the possessed and the lunatic, may conceive there is another personality in their body, as Bertrand, who said, pointing to her stomach, she had something there which spoke and of which she would enquire, she then bent her face over and answered all the questions put to herself. (*Ibid.* I. p. 171.)

There was a time when the controlling powers of outer existences were affirmed, and men went in dread of medicine-men, magicians, witches, spirits, and devils, now we know all the powers affirmed at present in such were fictitious, or the crafty and malignant actions of individuals; the fear, the dread, the physical or mental power, was non-existent save in their own thoughts, and that faith to save and faith to kill was only the exposition of their own mental power. So it is with hypnotism, the mental power of the operator of itself has no more effect than the charms and invocations of the medicine-man, and the extent of a man's faith in such power represents his apparent influence. When the will of the subject is strong, and eye resists eye, and mind deigns to hold itself

free from another's mental influence, no effect follows. But when the phenomena hold the subject's mind in thrall, it needs no outer personality to collapse the conscious activity. A Buddhist will induce it by looking straight down his nose, a self-hypnotist by gazing on a bright point, a button, any monotonous action or sound. No doubt more startling effects are induced by the subject's earnest concepts of the mental powers in another personality, the faculties in the subject rise to the presentation of the powers it affirms in the controlling will, but these seeming reflexes are in reality all generated in its own mind, as are all hallucinations, they may be due to its own internal or external sensations, to its structural or mental memories.

Some of the most striking assumed phenomena of hypnotic suggestion are those which seem to control time and space, and transform the subject to another personality, or through hallucinatory perceptions perturb the sensations. We have ample evidence that like presentations may be induced in the mind by bodily conditions and derangements of the personality. Perversions of the senses are as common in lunatics as in hypnotic subjects, a special hypnotic sight presentation is known as mirror-vision, this also betimes characterizes lunacy. Savage describes a young girl in the asylum who read everything upside down, and who, when a book was presented to her in the ordinary position, was thrown into a paroxysm on attempting to read it. (*Insanity*, p. 84.) None of the absurd accepted suggestions in the hypnotic state are more ridiculously extravagant, or manifest the play of the imagination uncontrolled by the rational faculties, more than do like incidents in lunacy. Dr. Arnold describes a lunatic who was self-persuaded that his nose was grown to an immense magnitude, that it seemed, as he went about, to dangle from his face like the snout of an elephant, and to be always so much in his way that he fancied, as he sat at

table, that he could not prevent it floating in the dishes. Another conceived that his nose was so large that he was afraid of stirring out of doors lest people should tread upon it as they passed him. Another believed his body was made of butter and avoided the fire lest he should melt away. One conceived his legs were made of glass; another would not stand up, as his bones, he said, were of the nature of wax, and he would, doing so, sink down a misshapen mass. One was delirious on temperature, and through the dog-days sat by the fire and said he could never get warm. (*Insanity*, I. p. 126, &c.)

The muscular powers manifested by cataleptics may be matched by the feats of the insane; they both are not amenable to fatigue, as is the normal man. Equally, in like manner, the mental powers of both may be exalted; there are many records of hypnotic presentations of special manifestations of powers, some of which we have already quoted. So it is with some insane. Thus we have the language capacity exalted, the poetic, and dramatic, and artistic powers exalted, memory intensified, and in like manner any power, both in the insane and the hypnotist, may be correspondingly expressed deranged and depressed. It matters not whether the primary suggestion comes from without or within, it is always expressed through and by the personal faculties.

A writer in the *Quarterly Review* writes:—"The source of clairvoyant fallacies arises from the influence of suggestion. Most of the revelations are made in reply to interrogatories, and not only mesmeric but hypnotized *somnambules* and biologized subjects can be made to describe everything of note in a house, without giving them any positive information, and when, in the absence of other guidance, a mere guess was hazarded, coincidences have now and then occurred such as mesmerists would doubtless have trumpeted forth as wonderful successes. That the descriptions were either suggested or guessed, was

easily shown by giving false directions, when the replies, being altered to suit them, had no relation whatever to the reality. We have tested mesmeric clairvoyants in the same manner, they all readily detail what is in everybody's house, such as chairs, tables, sofas, and bookcases, pianos, firescreens, &c., but they go no further until some suggestive question is asked, and, like the hypnotic *somnambules*, are readily entered into error. We happen to have a rather unusual piece of furniture, an organ of considerable size, yet no clairvoyant has ever spontaneously mentioned it." (XCIII. p. 539.)

To go into the data of every asserted clairvoyant assumption would be of no avail, for such are not presented in all cases, they depend on the testimony of an individual, or some anonymous assertion, and when we know how large a number of such tales are the uncorroborated affirmations of those who have been convicted as living upon the gullibility of the neurotic and weak-minded, we think it sufficient to present one or two cases in which such assumptions have carried their own negations.

The following cases are quoted from the *Proceedings of the Society for Psychical Research*, an authority of friendly sympathies with clairvoyant assumptions. Dr. Dupay cut off from the under part of a tame monkey he had a tuft of hair, this he submitted to several lucid somnambulists at Paris. The first expert said the good grandmother to whom the hair belonged suffered from cancer of the liver; the next said the hair was from one dear to the doctor, but in whom he ought to place no confidence; the third gave an anatomical description of the diseased organs of the person to whom the hair belonged unsurpassably fantastic. (Pt. XVI. p. 417.) Again, a French professor hypnotized a young lady on July 14th, 1884, and made the suggestion that he should see her at 10 A.M. on January 1st, 1885. At that hour the lady was at Nancy, the professor in Paris, yet the lady said at 10 precisely she heard a knock at the door

and in walked the professor, who wished her a happy new year, and then passed out. She then looked from the window, but could observe no one depart from the house. Now, like as with many assumed spectral appearances, we can detect the origin of this clairvoyant presentation, it is that, to her surprise, the professor came in a light summer dress, the same as he wore when he made the suggestion, hence she had borne the personality and the deferred incident in her mind for 172 days, and it was her own subjective memory reminiscence that she called into seeming visual presentation, and no telepathic or apparitional indication of the professor as he would have appeared at the period of her vision.

Post-hypnotic suggestion by others is not always effective. Unless the suggestion harmonizes with the mental unity in the subject, it is rejected. Hence the rarity of such affirmations. This, in itself, is a proof that the retention does not depend on the mental power of the operator, or the force of his will, that it does not indicate a telepathic or apparitional presentation, but simply an accepted suggestion which might have a material origin retained in the subjective memory, and, like all physical as well as mental deferred suggestions, waking into life at the due sequence of time.

That this is the simple explanation of the phenomena is evident from the instances of post-hypnotic suggestions on record. Thus Cox, in *Mechanism of Man*, writes :—"Two ladies were highly susceptible to hypnotism. If in the trance state either was directed and promised to do something at some time named, when awake, it was invariably done. Thus, I said, 'Go to-morrow at 1 o'clock, take a book,' naming it, 'open it at such a page, and bring it into my room with the leaf turned down.' She did so, asked why, she said she felt an impulse to do it, but whence she knew not." (II. p. 219.) The same answer, if possible, would be given by a bird or man in answering an

instinctive impulse. To wake at a given time, or automatically walk along a certain road, are equally mental or organic impulses, and belong to the same category of manifestations.

We have a pleasing natural instance in which the deferred suggestion becomes seemingly prophetic, and unconsciously, as an instinct, works out its own fulfilment. Goethe, in his *Autobiography*, writes:—"I rode along the path to Drusenheim, and here one of the most singular forbodings took possession of me. I saw not with the eyes of the body, but with those of the mind, my own figure coming towards me on horseback, attired in a dress which I had never worn. Eight years after I found myself on the very road to pay one more visit to Frederica, in the dress which I had dreamed, and which I wore not by choice, but by accident." The explanation is simple. That the style of dress was in his mind we know, first, from his illusion of it, secondly, from his waking memory retaining the consciousness of the style. More, as on each occasion it was associated with Frederica, there is a possibility that she may have expressed admiration of the special style. For the eight years he had retained it as a mental suggestion; it must always have been in his thoughts, under this influence he had procured such a dress. He inferred that an accident induced the wearing of it on the occasion of his visit to Frederica, we hold that an instinctive impulse decided the selection. Thus, unconscious cerebration realized the, as he thought, prescient intimation.

Nor is it only necessary for the deferred suggestion to become an active impulse in the waking state. As Moll writes, an operator says to his subject: "To-day you will dream that you are at Swinemunde, you will go on to Ostser in a boat with six people, the boat will be upset, you will fall into the water, and wake; the subject dreams all the details." (*Moll, Hypnotism*, p. 140.) In this case the imagination of the subject accepts the various incidents, converting the word-suggestion into a visual memory, and, as

with any timal accepted suggestion, it is in due course realized.

Nothing is more common in natural as well as in artificial somnambulism for any special, mental, or sense power, to be in abeyance or changed in its attributes. Nothing is more remarkable than the aptness of the sleep-walker to pass among many people in the crowded thoroughfare, or among persons and objects in a room, and, while avoiding contact with all, by some, as yet, inexplicable power, he appears to have no visual conception of their presence. So it is with the hypnotized subject under like conditions, and influenced by corresponding suggestions. Thus we read that "an hysterical young girl was told by M. Binet, that his associate, M. Féré, would be invisible to her. From that moment on, she ran against him, and thought it a miracle she should be opposed by something she could not see. The hat on his head seemed suspended in the air. As, after the *séance*, the suggestion was not disabused, M. Féré was still invisible to her, and she had lost all remembrance of him; she knew neither his name nor his person, although he had been her friend for ten years, and when he was made visible she did not recognize him." (*Science*, VIII. p. 266.)

The study of the science of suggestion is as yet in its infancy, and the assumed facts have been so mystified by the false assumptions of charlatans and spiritualists, that we have yet to separate the apparent from the false. Even the apparent powers have in so many cases been explained as exalted sense presentations, cases of unconscious cerebration, or exalted memory records, that the enquirer questions if many unexplained phenomena may not be reduced to one or other of these defined classes. Thus we have seen that cases of distant post-suggestion may be only instances of definite deferred unconscious cerebration recalling previous mental impressions. The subject of suggestion in its many aspects is as yet too indeterminate to admit of its range and working laws being defined.

CHAPTER VI.

General Summary of results.

In working out the phases presented by the Human Personality we have had to exhibit its derivation from, and betimes reversionary representations of, animal characteristics, both mental and organic, thus implying their oneness of origin. Of the various forms of individuality that human and animal organisms may present, we will now take note and conclude with a summary of the general principles expressed by the various orders of co-ordinate personalities.

We have become conscious that there are individuals that present only faculties, single organic, with their necessary mental forces, and that these when thus isolated have no co-ordinate parts. They may be only generative functions, as the male Chondracanthus, or expressing volitional or nutritive functions, as Hydrozoa persons, or be attached in sets to a common part, as with Anthozoa.

In the lower vital forms the individual may be only a phase in the life of the species. In the intermediate forms they are distinct stages in the life of the individual, and present a series of connected but distinct personalities, and in the higher forms we have the most perfect compound, and compact individuality, with its numerous subindividualities.

The lowest individualisms arising by fission or gemina-

tion represent increased energy by repose, and the cyst state always appears to accumulate energy. The new developing energy is often induced by the absorption of the parental substance in whole or in part. In a series of alternate generations it accumulates vital force to the sexual capacity. Protected by the parent in the egg or fœtal state, or both, the young life, in its more or less lengthened state of developing repose which presents only growth-action, stores up the normal fund of energy that sustains its after vitality from the superfluity it derives from the mother's nutriment. In the after individuality the expended energy is restored by food and by repose until the assimilative powers fail to keep up the supply, and then death ends the individuality. Severally we may follow the individual as a stage in the racial history, in the successional life of the cell, in a continuous series by fission, by alternation of generations, by forms of metamorphosis, and by growth only.

In the cell state we are conscious of the presence of the sarcode enclosed in a membrane, we may even note the amœbal sarcode which has not yet differentiated an enclosing membrane, and whose vital phenomena are limited to the protrusion of portions of its own soma as temporary pseudopodia, and whose actual individuality may be multiplied by the accidental interposition of a blade of grass in its fluent progression. When the membrane has been evolved multiplication by the evolution of new cells takes place, due to the contraction of the membrane in the line of least resistance causing the separation of the mass of sarcode into two individualities, or the contents granulate through growth energy in their substance, and they become converted into self-existent buds. But ever in the whole range of cell growth, whether the change by cell differentiation occurs in individual cell life or is cell action in a multiple organism, the new self-contained, or subpersonality, is ever formed by the separation of a portion from the

parent cell, and which portion ultimately enlarges to the full mature cell, and a like series or cycle of changes under favourable conditions may ever induce successional individualities.

The life of the cell may be more than we have described; it may be limited, or it may be apparently unlimited in its store of potentialities. Then though no higher differentiated than a monad, apparently possessing neither parts nor distinctions, though having nothing explainable by theories of vibrations, or colour, or separatable by analysis, yet we are conscious by the knowledge of its output that potentially in that undifferentiated cell there is contained every line of vital energy after to be developed by its organism. It has therein all the elements of bone and muscle, ligament and blood, brain and cuticle; that it contains all the senses that the germ will subsequently evolve; it has the power of generating others of its kind, with the energy intact in them to pass through all the stages that it will pass through; it has potentially all the thought, feeling and ideality that its fully developed condition is capable of manifesting, and more, it has the power of casting off, or undeveloping faculties, organs and attributes that may not be capable of full development, or of bequeathing to its successors powers and faculties self-evolved.

If we represent the life of an individual by the capacity to fulfil sexual generation, we may have no individuals in a race, it may be only one individuality, continuing and multiplying its separate members by gemmation or fission, ever starting a new somatic organism, or the vitality may be in two or more personal generations. There may be intermediate nurse organisms, periodic asexual and sexual organisms, passive neuter organisms, and metamorphic organisms.

Among all the higher forms of vital organisms there are no successional asexual generations, no intermediate nurse or neuter generations, no transformations, save that from

the passive egg to that of individual active vitality; all the changes are graduated lines of progress ever advancing to the mature condition. Yet, though among the higher races these sexual characteristics are never organically presented, ever we become conscious in the mental attitudes of some men and women that these reversionary characteristics give tone to the thoughts and actions. The individuality of the young organism is manifest while in the egg, and sex is only a varying property, not an integral character, a binary adjunct from its double origin that determines not creates its status. Separate consciousness constitutes mental individuality and that has nothing to do with sex, though sex determines the special nature of its manifestations.

When the individuality represents only part of a compound organism, a granule of sarcode, an individual in a group of cells, a mere self-active faculty, so far while it is an adjunct to the compound organism is it in that relation an individuality. The polypodum has as many wills as there are polyps, even though there are certain somatic functions general to the whole. These are but organic habits, they may be inherited as with the Hydra, or they may occur accidentally as in the case of the Siamese twins. Even extra non-typical parts or members may be attached to an ova in fœtal life, or as grafts when it is mature.

The result of our enquiries is to substantiate certain general principles which are expressed in the varying co-ordinations of animate organisms.

1st. Each animate form is a co-ordinate individual, composed of aggregations of differentiated particles possessing vital functions, the lowest element of which as yet known, granules of plasma, each of which is capable of manifesting special properties, and these elements in combination advance into higher and higher, more complex and more definite attributes according to the multiple series of differentiations they represent. Each granule is

constituted of specialized chemical elements only known to manifest animate powers as inherited from like ancestral organisms.

2nd. The co-ordinate combination may in its lowest phase only represent aggregations of pre-vitalized substance, now only fit as pabulum to sustain animal vitality, having only the cohesive plasticity and specialized nature of plasmic particles and only associate by the action of position. When retaining the inherited growth power the plasmic particles blend by growth fusion, and manifest any or various combinations of organic individualities in response to the multiple combinations constituting their mental and organic parts—in the lower series expressed through various forms of fission induced by the assimilation of solvent nutritive pabulum, as shown in unicellular organisms, and in the varying modes of growth in animal tissues. Through the conjugation of a ciliate and a flagellate unicellular organism, and their subsequent fusion into one individuality, a cyst is produced, and the new individuality breaks up into organic spores. Lastly, by sexual congress, and the fusion of ova and sperm, only new individualities are evolved, the parent organisms not fusing but each retaining its own individuality, only casting forth sexual organic germs, the union of these diverse germs producing the new sexual individualities. In all cases the higher organic evolvements continue to represent the powers present in the lower stages as well as their special endowments.

3rd. The principle of co-ordination is a special vital attribute common to all organisms, and denotes that interexistent power that gives unity of action to the diverse faculties and members, and induces their several forces to act in conjoint harmony, it is present in the lower as in the higher vital aggregations, and under normal conditions the parts have a common persistent unity, and growth and succession proceed in their due relations. The individual,

the race, and the various orders of animate beings, continue to fulfil their common vital actions.

4th. Any aggregate group of individuals or a single individuality may, under the influence of detergent conditions, have the harmonious relations of the parts, members, or faculties, both bodily or mental, thrown out of harmonious working gear, which results in abnormal states accompanied with greater or less disruption of co-ordination, and the deranged results may express loss, waste, exaltation, excitation, or depression, organic and mental.

5th. In response to these disturbing influences the co-ordinating principle in the organism, in general, actively essays in sundry ways to remove the disorganizing agents, or by repose, or the increased activity of some of the faculties, to reduce the deranging forces. If these fail, then the co-ordination becomes degraded to a lower reversionary state, or death ensues.

6th. As manifesting the presence of the centralizing controlling power of co-ordination in the attempts to withdraw the disorganizing activities, the principle of transference of energy is applied, both physiological and mental, to recoup the harmony of the co-ordination, and thus by change of locality or action aid the regenerative process.

7th. Of the causative principle implied in co-ordination we only know what the inferences deduced from the changing attributes of organisms present not only in the developed individual, but in the granule of plasma, the bud, spore, ova, or spermoid, from which it was derived. Necessarily there are interrelations between all vital organisms and externals, both vital and non-vital, as well as between the several parts in an organism having their special individualities, which build up the compound organism; but, in addition, by the act of fission, by budding, by developing into spores, and by the generation of ova and spermoids, new individual entities are evolved which

manifest their special distinct co-ordinations from the first, though sustained for a time by assimilating food from the parental soma. Even the bisexual organism begins its individual co-ordination long ere the period of birth. The ova has its unisexual life-stage persistent for a longer or shorter period in a cyst or dormant state in the virgin follicle sometimes for many years, and it moreover has a period of unisexual vitality actively presented for some time before the sexual congress converts it by fusion with a like co-ordinate spermoid into a compound bisexual co-ordination.

8th. Growth is the primary manifestation of the co-ordinate activity. It is expressed by the mutual assimilation or fusion of particles of plasma, by the actions of fission, of budding, the processes of encystment and segmentation in their various special modes, asexual and sexual. It induces and builds up all structural differentiations, and in its mental aspect characterizes every mental differentiation.

9th. At first vital organisms only express growth in its simple forms of physical differentiation. The organism, homogeneous in its nature, reciprocates to the physical attributes of matter in unison with it; by the action of moisture and heat the plasma is enabled to assimilate with other plasma, and ever under their and the chemical influence of the atmosphere the organism extends in various directions, manifesting growth volitions, food volitions, structural, and asexual reproductive volitions. These are not the results of choice or mental determination, but phases of the working of the unconscious principle we term growth, which are ever proceeding in our own and all animal organisms, sustaining and developing all the parts and functions evolved in it. We may call this unknown principle of force vital energy, and we recognize its power in developing the organism, in the formation of tissues and parts, in its capacity to store up reserves of energy in

tissues and fat cells, and in its power of recouping lost energy by assimilation, by repose, and in reproducing diseased and lost parts, even to attach to the organism as grafts other living tissues and cells.

10th. In our own, and in other high-class organisms in their several grades, we observe the presence of a power not manifest in the lower cellular organisms, nor in our lower organic faculties—that of consciousness, not only the higher abstract consciousness, but the consciousness that is expressed in sensation, perception, memory, and judgment, according to the differentiations in the organism. This consciousness is manifest in determination, selective choice, in the capacity to adapt its actions to the nature of its parts and their surroundings. We classify this consciousness into various grades, determinate by the range of the harmonious relations of the structural differentiations, and the accompanying mental powers.

11th. We thus perceive that we, in common with all the higher animals, have two sources of active volition: growth and consciousness. In our bodies the lower series of forces are ever at work, the growth volition begins in the ova and spermoid in their incipient states, and continues to actuate the whole series of their combined growth and nutritive differentiations unto death. The higher series, the conscious volitions arise as the result of sexual fusion, they have a period of development in the individual, marked by successional stages of repose and activity, varied betimes, may be, by diseased or deranged relations.

12th. Reproduction, or the physiological multiplication of organic individuals, is a phenomena common to all vitality, and is one of the great principles that mark vital attributes. In its simple state it is the result of exalted nutrition, which, absorbing more pabulum than needed for sustentation, renders requisite the enlargement of the individual mass of plasma or the cell beyond its cohesive capacity, causing it to separate into parts, each having all

the attributes of the original mass. Habit, in time, induces forms of fission, forms of budding, and buds aggregate until the mass of the organism evolves into spores, or ultimately by sexual congress, through various stages, the higher reproductive results ensue. In all the stages contained in the growth reproductive series, the primary organism breaks up into the new animate forms, with the corresponding loss of its individuality, but in the sexual series each parent organism gives forth a germ particle representative of its whole organism, mental as well as physical, which combine to form the new individuals without any consequent loss of individuality to their progenitors.

13th. Each individual organism represents the stages of the phylogenetic evolution of the race in its ontogenetic stages of growth when asexual, and of both of the parental races when sexual. More, each individual has persistent in its organism the leading structural and mental types evolved during the phylogeny it represents, and in its ontogeny it may by detergent influences be stayed at any advancing type, physical and mental.

14th. Hence an individual organism, human or animal, may degenerate from its racial type, revert to a lower stage, and be only capable in the evolution of genetic organisms to transmit to them its degenerated type.

15th. In like manner higher influences may elevate its nature, and it may exhibit exalted mental or physical differentiations with the power of transmitting these enlarged attributes to its descendants.

16th. As general results, these higher developments have induced every advance in the phylogeny, from the lowest to the highest of the differentiations, they are conservative, and severally express increased vital energy while, on the contrary, the reversionary and degenerate degradations denote the loss of energy, and this, if not recouped by new exaltations, causes the lower type to

perish. Thus the balance of the reciprocating forces induces a racial tendency to advance.

17th. Advancement by enlarged attributes and new differentiations in the asexual series is induced by new manifestations of growth energy, causing, by the habit of like volitional repetitions, new structural modifications, and in the sexual series, mental will combined with organic energy, jointly or severally, by the same law of habit evolve other mental and structural differentiations. Thus the active energy of growth, or a felt want, may be arising from altered external conditions, induces new special modes of mental work, special structural expositions, and these, from habits, become instincts, structural and mental, and which, under continuous like influences, become hereditary qualities.

18th. The same self-generated impulses of growth and thought are ever evolving, and, through new habits and new conditions, ever working, and the more integers that there are present, the more multiple become the tendencies to vary, and the greater the probability that some may become staple. It is apparent that at any moment in its ontogeny each organism is exposed to the contingency of starting a new differentiation, and, as a necessary consequence, all the higher organisms are unstable; hence the two principles, hereditary repetition and individual variation, express the interrelations of all organic beings.

19th. As a general result, vital animate organization has advanced not only in the general structural line, but at special stages determined by the associate influences then occurring, lateral, structural, and mental branches have been evolved, forming new lines of distinct differentiations, until the forms and mental impulses of vital organisms have become as varied as we now observe them.

20th. The psychical character of the co-ordinate attributes, like the organic, are due to differentiations ever advancing in their several series: as sensations, perceptions,

memories, whether organic, sensational, or ideational, and intelligence in its various forms, organic, instinctive, conscious, and abstract. Thus undefined psychic growth types precede the evolution of forms of consciousness, organic memories, those presented by the perceptive powers, growth will, a conscious will and thought impulses, active ratiocination. Thus we become assured that mind in its lowest and in its highest manifestations, like the organic structure itself, is ever a form of growth, and whose stages in evolution we may some day express.

APPENDIX.

Unsolved problems of life.

We propose in the Appendix to more fully illustrate some points in the nature, development, and relations of the subpersonalities in the human co-ordination, and the principles now recognized as modifying and re-adjusting the co-ordinate forms and modes of expression. In doing so we shall, as far as possible, avoid comments, our purpose being to present further matter of thought on each subject for the reader's consideration.

A.—*Forms of Co-ordination.*

Growth Force.—Cope, in the *Origin of the Fittest*, writes:—"There would be no organ prior to the determination of growth force, and this is not caused by the mere irritation of the part or organ used with the objects of its use. Growth force may be, through the motive force of the animal, as readily determined to a locality where an executive organ does not exist, as to the first cell or segment of such an organ already commenced, and therefore effort is in order of time the first factor in acceleration. Acceleration under the influence of effort accounts for the existence of the rudiments of organs in process of develop-

ment, and rudiments of organs in process of extinction are results of retardation" (p. 196).

Protoplasmic movements both in vegetal and animal germs, have been associated with the pressure of oxygen. In the *Proceedings of the Royal Society* (XLVI. p. 371) we read that the presence of free oxygen is one of the essential conditions in protoplasmic movements. Very slight irritation of the plasmodia during the experiment causes contraction towards definite centres, where the protoplasm assumes a more or less spherical condition. In the leaf cells of Elodea, the circulation may occasionally pass over into rotation. After the streaming in plasmodia has been restored by the introduction of the necessary oxygen pressure, it ceases again in a very short time. Oxygen pressure was neutralized by absence of oxygen, by exposing the test object in an indifferent gas, as nitrogen, or hydrogen, or in the exhausted receiver of an air-pump. The minimus oxygen for the streaming movement in the plasmodia of Myomycetes and in the cells of hairs varied from over 1 mm. to 3 mm. The death of the cells usually arrested the experiments.

If ciliary movement is arrested in any healthy infusorian by the absence of oxygen, the organism soon begins to disintegrate; the introduction of an oxygen pressure of 1 mm. is sufficient to arrest disintegration and restore ciliary movement. Inability on the part of the protoplasm to continue its movements seems to be always associated with cessation of the power of growth.

It has been suggested "that a cilium is a hollow curved extension of the cell occupied by hyaloplasm and invested by a delicate elastic membrane, then it must follow if there is a rhythmic flowing of the hyaloplasm from the body of the cells into and out of the cilium an alternate extension and flexion of that process would be brought about. The movement would in fact be produced by an action which would be practically the same as that by which the amœboid

movements of cells, and the contraction and extension of muscle, are probably effected. The same result might be got, supposing the cilium to be a straight and not a curved extension of the cell, if the enveloping membrane were thicker along one side than the other. This assumption would also enable one better to account for the spiral direction of the movement in certain cilia." (*Proceed. of Royal Society*, XLIX. p. 198.)

Dr. M. Forster writes of cilia that:—"The free surface of the epithelial cell is formed by a layer of hyaline, transparent, somewhat refractive, substance. From this there project outwards a variable number, ten to thirty, delicate tapering hair-like filaments, varying in length, generally a quarter or a third as long as the cell—these are the cilia. Ciliary action consists in the cilium being at one moment straight or vertical, at another of a hook or sickle form, and then it slowly returns to the straight form again. This double movement is repeated so rapidly that the individual movements cannot be seen; it is only when the movements by fatigue become slower, eight double movements in a second, that they can be seen. The flexion takes place in one direction only, and all the cilia of each cell, and of all the cells of the same epithelium, move in the same direction, and the same direction is always maintained during the whole life of the epithelium. Thus the cilia of the epithelium, of the trachea, and bronchial passages, move always in life so as to drive the fluid lying upon them upwards towards the mouth. The cilia on one cell move in concert, but those on the cell before it slightly in advance, and those on the cell behind it slightly after it." (*Text Book of Phys. 5th Edit.* pp. 163, 164.)

Cell evolution.—"All the tissues of all organisms, both low and high, have been proved to be so much like the modified results of primitive cells, more or less closely blended together, that we may suppose them in all cases to have arisen from cells in the first instance. Those growths,

which are spoken of as new formations, are also indubitably traceable to the growth and proliferation of the same unit cells, or at any rate cytodes. Newly formed cells may be modified in various ways and degrees, or, on the other hand, so little changed as to be scarcely distinguishable from those parent cells which originally gave them birth."

"The next stage of animal life beyond that represented by undifferentiated protoplasm, is that of the dioblastica, in which there are two distinct layers of protoplasmic units, either of which is capable of discharging the function of the other. A third stage is that displayed by the triploblastica, in which each layer is largely independent, both in regard to structure and in regard to function; and is by no means able to take on the functions of another layer. Similar stages are passed through in the development of the embryo of any higher animal—the three layers are the epiblast, the mesoblast, and the hypoblast." (*Lancet*, 1888, II. p. 309.)

Formative processes in the blood.—Dr. Forster observes that blood, as shed from the blood vessels of a living body, is perfectly fluid. In man, the blood when shed becomes viscid in two or three minutes, it enters the jelly stage in five to ten minutes. After the lapse of another few minutes the serum stage is reached, and clotting is complete in one to several hours. In the viscid state the blood becomes a complete jelly of the same bulk. After, in the serum stage, which was apparently homogeneous, becomes separated into a fluid, the serum; the layers begin externally where they are exposed to the air, the jelly meantime shrinking. At the same time a change has come over the jelly mass; under the microscope it is seen to consist of a feltwork of fine granular fibrils, in the meshes of which are entangled the red and white corpuscles of the blood—the fibrils are composed of a substance called fibrin. As the fluid becomes viscid, fine fibrils of fibrin will be seen to be developed in it, especially at the sides of

the containing vessel. Stirred or pulled about with a needle, the fibrils shrink up into a small opaque stringy mass."—(*Text Book of Physiol. 5th Edit.* pp. 15, &c.)

In the *British Medical Journal* (1892, II. p. 753), we read that the corpuscles, both red and white, are formed chiefly if not altogether in the red marrow of the bone, which is found in the bones of the skull, of the trunk, and in the extremities of the long bones. The red and white have independent origin, the antecedents of the red are erythroblasts, of the white, leucoblasts. In the red marrow the arterioles are fewer and of much smaller capacity than the venules, the circulation in these latter is therefore slow; it is in these that the red corpuscles are developed, they appear to have but ill-defined walls so that the passage of the corpuscles from them into the tissues, and *vice versa*, is easily made; between the erythroblasts and the fully formed red corpuscles are many gradations of cells, all of which are actively dividing. Both erythro and leucoblasts have amœboid movements.

Modes of Growth.—There are three processes in living bodies: the formation of parts in the incomplete embryonic organism, the reproduction of parts worn out or lost in the complete organism, and the enlargement of parts already existing. The embryonic growth has three evolving laws: progressive development, limitation of size, definition of form; these laws are equally true of the whole and each part. These results are produced by the multiplication and growth of cells. The primordial cell divides and divides again until it has been converted into a mass of similar cells, and these have been converted into tissue. There are two stages: multiplication without differentiation, and differentiation with development. In the formative process the embryonic cells arrange themselves in definite layers or forms, from which the subsequent organs and tissues take place. (*Lancet*, 1874, I. p. 330.)

Dr. O. Hertwig, in his *Text Book of Embryology*, describes

the processes by which through the modes of cleavage new differentiations take place. Thus, cleavage may be equal, unequal or discoidal; by unequal growth there arises out of the originally uniform membrane a special organ, by the folding of the membrane into the interior we have invagination, if outwardly evagination. By continuous cleavage through invagination, contraction, and extension, the germ layers become moulded into segments, and in every segment the due series of changes proceed in harmony with the typical plan of each structure. The blastoderm is formed by the simple process of folding, and by multiples of this form of action or extension the body and viscera evolve. So soon as the delicate thread of the spinal cord is evolved, then the blastula folds as an envelop over it, thus forming the first foundation of the body. Then new folds give form to the abdominal and thoracic cavities, and by many invaginations build up their parts at first as simple folds, which gradually assume their ultimate character, giving out new folds wherever requisite to form their subsidiary parts, and these again evolve other like differentiations, until the whole complex plan is determined, and each several part as it is required perfects its general growth and that of its individual parts. Betimes some parts only required late in the ontogeny, though planned, may be structurally built, become then passive, remaining in a somewhat cystic state, but all renew their vigour and complete their growth in due course when the system is prepared for their use. These growth processes are essentially the same in all organisms, however varied are their vital differentiations.

A developing vital community not only represents a specially moulded and formed organism, with fixed and determinate parts which induce special local movements co-ordinately, but a large series of vital cells, which have to traverse the cavities, a growing fluid mass of cells, which thereby carry on the sustenance of all the structure.

More, in the various processes by which the permanent organs of the embryo are developed there occur side by side with these permanent invaginations, and so forth, of the continuous members and parts, invaginations and evolutions of parts which exist only during the embryonic life, and have no significance thereafter. These serve during the egg stage of existence either for the protection of the soft, delicate, and easily injured body, or for respiration, or for nutrition. They either undergo regression, metamorphosis at the end of embryonic life, or are cast off at birth as useless or unimportant structures. They are developed out of the germ layers the same as the most important living parts. They therefore belong to the nascent organism as being its embryonic organs. (*Hertwig, Embryol.* p. 195.)

All normal growths, and all abnormal additions to a complex organism, reiterate the fact that each part has a life of its own independent of the common vitality. On this subject Fagge and Pye Smith observe that each integral or elemental part of the body is formed for a certain natural period of existence in the ordinary conditions of active life, at the end of which period, if not previously destroyed, it degenerates and is absorbed or dies, and is cast out. (*Princip. and Prac. of Med.* p. 7.) Of the limited duration of organs and functions Sir J. Crichton Browne, in the *British Medical Journal*, gives a full exposition. He writes:—"The hyaline cartilage, which is the first rudiment of bone, is, in its nature, a temporary structure. The milk teeth, the eruption of which goes on from the seventh month to the second year of life, having served their purpose disappear from the seventh to the twelfth year. The thymus gland, so active in babyhood, grows rapidly until the third year, then remains stationary until the tenth or fourteenth, when it gradually dwindles away, passing through an old age of atrophy and fatty degeneration exactly analogous to the old age of the body generally. As regards bulk, weight, vigour and functional capacity,

some organs begin to show signs of failure long before the prime of life. There are organs and functions which instead of having a brief and provisional existence in comparison with the life of the organism only tardily develop, slowly climb to their perfection of being, and deliberately and partially retrogress. There are certain centres and groups of centres in the higher nervous system which have an evolutional cycle larger than is currently understood. One group in the ascending frontal and parietal *gyri* represent the movements of the thumb, fingers, wrist, elbow and shoulder, that is the movements of the hand and arm. The evolution of these centres commences soon after birth, proceeds actively and visibly during childhood, more deliberately in youth, and is complete about the nineteenth year. There is evidence that the hand and arm go on evolving to a much later period. Thus a turner of buttons from ivory nuts enters that branch of trade at seventeen, will gradually increase his production up till thirty, when he will be at his best, and turn out forty gross or 6240 vest buttons a day. In Bradford weavers do not reach the summit of their proficiency until about the thirtieth year, so with the Staffordshire potters. The movements required in the operations referred to are few in number and simple in character, but the long nascent period of the hand and arm centres in our operations is not followed by a proportionally long tenure of adult vigour and agility. At about forty-five the production of the hands diminish, and after that contract in a yearly increasing ratio. A sawyer in the button trade would turn out at forty a hundred gross of flats a day; at forty-five, eighty gross only, and at fifty-five his output would fall to sixty gross, at sixty-five to forty gross a day; in other words, his wages of forty-five shillings weekly will fall to thirty-eight shillings, to twenty-four shillings, and lastly to twenty shillings." (*The British Medical Journ.* 1891, II. p. 731.)

So as it is with the life of parts and functions, is it with the life of the epithelial and all other organic cells. Thus the superficial scale-like cells of the epidermis become dry and hard, losing their nuclei, at the same time their previously secure connection, by means of a cementing substance, become loosened, allowing of their easy separation. Mucous carries off some of the cells in the locality in which it is produced. The most usual way in which cells are destroyed is that of solution of their bodies; in those having membranes, rupture of the latter with escape of their contents, and liquefaction of the nucleus. Digested in the slightly alkaline fluids of the system, the matter of which the dying cell is composed, is often transformed into a substance like mucous. (*H. Frey, Histol. of Man*, p. 94.)

Thus it is with all cells; with some growth, age, and decay, are represented by weeks of duration, in others by much longer periods, but in all cases ever in the life of the part these elements are successionally renewed, and as they have only a limited life period, so is it with the part or function to which they belong, and with the exception of the vital forces they all may cease to be operative before the death of the common organic centre, some even living for a time after the centre that sustained them was dead. Each single or combined has its own life power, its own living period, and as such they are as distinct subpersonalities as is the citizen and his family in a human community.

B.—*Erratic Growths.*

In addition to the normal forms of growth, asexual and sexual, such as we have described, there are a large class of abnormal growths, which may be considered under the heads of errant growths, and of destructive or, as they are often termed, "malignant growths." The first, like gipsies in the communal policy, are without status, the last are belligerent members which do their best to prey on the community they are associated with.

The *errant* growths are widely diffused, and there are few organisms devoid of them as supplementary conformations; most commonly they arise from stray cells that have received special excitement derived either from special growths in the organism itself or by erratic attachment from other organisms. In their lowest forms they express only cell multiplication through pressure, inflammation, and so forth, or they cast off bud cells which become diffused over the organism. Every school-boy knows that warts may be derived from contact with the warty hands of his companions. Gant writes that warts are found on the hands of girls who may have fallen into the evil habit of masturbation. The dissecting room wart arises from frequent contact with decomposing animal matter. (*Science and Practice of Surgery*, I. p. 192.) This implies that as distinct entities they live after the higher organisms on which they are found, are dead, and that they may be derived from both living and dead cells.

As implying growth from a primary germ Paget writes that "many innocent tumours exist in the same person and are all in one tissue." Thus a man may have a hundred fatty tumours, but they will all be in his subcutaneous fat, many fibrous tumours may exist in the same uterus, many cartilaginous tumours may be in the bones of the hands and feet. (*Paget's Lectures*, p. 385.)

These simple tumours may be fatty, fibro-cellular, fibrous, cartilaginous, osseous, myeloid, glandular, vascular, papillary, according to orgin, even seminal cysts may be found in any part of the spermatic cord, and as each cyst secretes its natural substance those containing seminal fluid evolve or attract its natural contents, and in such spermatoids are known to abound. (*Ibid.* p. 417.) Simple cysts may be serous, synovial, mucous, sanguineous, salivary, seminal. Even cysts beneath the hairy part of the body may produce hairs. (*Ibid.* p. 417.)

Tumours are not all simple growths of an asexual character, nor yet such degenerated into a state of cell insanity destroying the very substance on which they live. There are a large class of tumours common to the animal kingdom whose origin is derived from like primary germs as the organisms to which they become attached. These supplementary organisms may consist of the whole or any isolated or combined group of parts, they may be attached externally, or be embedded in any part or parts of the supporting organisms.

Holmes and Hulke write in their *System of Surgery*, "That which has been most readily accepted of late years is the 'inclusive theory of Cohnheim,' which supposes that these tumours are derived from a fragment or tiny mass of embryonic tissue, forgotten and enclosed unorganized in the substance of a completely developed part. This tissue may remain unaltered during many years, until on the application of some exciting cause, most frequently increased vascularity, it is lighted up into active growth, which results in the formation of a tumour." (I. p. 244.)

We have to remember that the combination of embryonic germs may be that of two complete embryos, each fully developed or one dwarfed, or of any parts of one embryo attached to the other, and either fully developed or partially atrophied, or the added part may, like the sleepers of Ephesus, remain dormant through a longer or shorter period of years, and then awaken into life at the same stage of being as when they became latent. Thus J. B. Sutton describes a dermoid tumour from a woman of sixty which contained a ball of light brown hair, a portion of a cyst that had remained unchanged in her from birth, until it developed, and probably exhibited what would have been the hair of her twin sister. Of the contrary are we to read that the grey hairs which have been found in the cysts of young subjects, had become prematurely old, or are we to suppose that the cyst itself was inherited from a previous

generation? These are difficult subjects to discuss as we have no recorded data on which to rely.

That in early embryonic life a fœtus may be absorbed by another fœtus, or only partially appropriated, has been said by Balfour, and others have described cases of spontaneous amputation of fœtal limbs. There are also the presumed maternal mental effects on the primary germ or germs. That an early germ may break up, Wilkes and Moxon intimate, in the fissured skin of so-called harlequin fœtuses, and Virchow describes a congenital disorder in which are found granular cells, and the tubular tissue was broken and separated into short rice-grain shaped bodies. (*Wilkes and Moxon, Lectures,* p. 611.)

Instances, almost innumerable in ancient and modern times, intimate that germs having one head, and germs having two heads, may exist and grow. If there is only one head, no matter what the combination of parts, even when all the other parts are duplex, there will be but one consciousness; and when there are two heads the other parts may be those of a single human being, or any aggregation of the parts of two, and then there result two consciousnesses, two wills.

Betimes it may happen that one fœtus is contained in another fœtus, the same as occasionally a small hen's egg will be found contained in the ordinary egg of a fowl. The duplicate fœtus may be contained in the body cavity, or it may have been encysted in the muscles or other parts of its twin fœtus. In the *Medico-Chirurgical Transactions,* is described a fœtus found encysted in the abdomen of a boy. (I. p. 236.) A child was born having a large abdomen, at twenty weeks old it died through an accident, when it was found to have another fœtus in its abdominal cavity, weighing over five pounds. This was attached to the lower portion of the child's stomach. It had continued to grow after birth, sustained by nutriment derived from the living child's stomach, the hair on its head was from

three to four inches long. (*Lancet*, 1880, I. p. 703.) In the *Teratological Catalogue of the Museum of the Royal College of Surgeons*, we read of an internal parasitic fœtus being found in the abdomen of a child that lived to be nine months old. Another fœtus was found in the nates of another child fourteen months of age (pp. 36-38).

Of fœtuses more or less embedded in the predominating twin companion, we may refer to Peruntaloo, a Gentoo boy, a well-made lad who had the lower half of a second child growing from between his breasts. (*Philos. Trans.* LXXIX. p. 157.) In the *Lancet* (1883, I. p. 381) is the case of a fœtal parasite that had been removed from the left cheek of a young man when he was a boy. In the same journal (1888, I. p. 371) is the instance of a fœtal parasite attached to the umbilicus, no head, that probably absorbed. Sometimes two fœtuses are blended in an extraordinary manner. Thus one was located in the mouth of another, its head in the pharynx, its left arm protruding through the left nostril, the legs hanging out. (*Lancet*, 1873, I. p. 865.)

From some of the cases it would appear that in the process of self-grafting to another fœtus, the predominant organism may absorb more or less of the parts of the duplicate organism, in this process portions only of the organism may be set free, and these, or portions from the multiple cell-stage of fœtal life, may be attached to another germ, as grafts, and become supplementary to its co-ordinate energy. Of this class of additional attachments we have many illustrations, rising from a single tuft of hair to a tooth, a stray bone, a lock of hair twenty inches long, a long nail, a finger-like process with nail, a spurious mamma with nipple, bone with teeth inserted, &c. (*Dermoids, J. B. Sutton*, pp. 3-18.) In the *Warren Anatomical Museum Catalogue*, we read of a case in which thirteen teeth in a portion of bone were found in a cyst, another of a like piece of bone containing seventeen teeth.

There are some remarkable cases of fragments of a fœtus

being found attached to an absorbing organism. In the *Warren Anatomical Museum Catalogue* is the description of the congenital tumour from a child's cheek having the organs of a second child's pelvis, stomach, and intestinal canal, with liver, nerve, &c., which had an independent vitality. When these were removed the child continued to do well (p. 135). In the *Lancet* (1879, I. p. 467), we have the case of a disjointed fœtus regrafted abnormally in the womb, consisting of a portion of the scalp, eyes, &c., wanting; there was no penis in the normal place, but a penis with urethro glans and corpus cavernosa, were growing above the eyebrows; there was a supernumerary finger on each little finger.

In the *British Medical Journal* (1892, I. Epitome, p. 99) is the case of a girl of three years, having on the left gluteal region some well-marked portions of a fœtal face embedded. There were the upper and lower eyelids of the left eye, with lashes and eyebrows; an upper lip, which covered part of a rudimentary upper jaw, furnished with three well-developed incisors; also a rudimentary tongue, &c.

In the *Medico-Chirurgical Transactions* are several similar cases. In a girl of two and a half years, a fœtus was found in a tumour. (VI. p. 124.) A fœtus in a bony cyst was retained in the mother for fifty-two years. (V. p. 104.) An ovarian cyst contained brain matter. (XXXVI. p. 433.) Another had seven teeth and a portion of the alveolar process in a cyst tumour. (XIII. p. 12.)

In the *Philosophical Transactions* (LXXIX. p. 72) we read of the right ovarium in a girl of twelve being converted into a substance about the size of a hen's egg, an apparently fatty mass, containing hair and bones. The hair resembling that of the head, and about three inches long. There were vestiges of teeth, a canine grinder and two incisors. The teeth were advanced to the size usual some months after birth. The *British Medical Journal* (1892, II. p. 281) quotes a case of dermoid tumour.

The cyst contained a large amount of hair, and growing from one side were a well-formed penis and testicles, and beneath them were three large teeth firmly embedded in a gum. Wilkes and Moxon, *Lectures on Pathological Anatomy*, observe :—We have in a jar a quantity of bones, which were taken from the buttock of a child, and which must have belonged to a twin fœtus. They also refer to a case of a child in whose abdomen was a cystic growth, containing fat, hair, bone, and rudimentary feet (p. 614).

A partially formed twin fœtus may be attached to a normal child. Thus in the *Lancet* (1885, II. p. 1206) is the report of a case in which a second imperfectly developed head and thorax were attached to the upper part the child's abdomen. There were no trace of ears, a fleshy imperforate mass represented the nose, a few hairs the eyebrows, there were portions of eyes, and a transverse fissure implied the mouth.

Stray hairs and teeth may be erratic germ buds derived from another fœtus, or self cast off. Thus we read of a tooth growing from the right lower eyelid, a canine; as the number of deciduous teeth in the mouth were perfect it must have been grafted from another fœtus. (*Lancet*, 1887, II. 763.) In another instance we read of a canine tooth growing in the nasal opening, but its place was vacant in the jaw. (*Ibid.* 1883, II. p. 772.) Another like case. (*Ibid.* p. 862.) An eyelash was accidentally grafted on the iris, where it grew and formed a circular mass of hair. (*Ibid.* 1883, II. 104.)

All these instances demonstrate that each part of an organism—whether large or small, whether cell, plasma, evolved tissue, or organized as a part—has, as Dr. Carpenter showed, a life of its own independent of the life of the entire organism.

We have seen that organic life, whether in its parts or in its full normal development, expresses two distinct classes of powers, the asexual and the sexual. All the abnormal

forms of growth of the first class arise before sexual fusion of the organizing elements; all the last class express that the conjoint fusion must have taken place. Hence we divide abnormal growths into two orders, having those distinctions. Now it is certain that asexual growths may occur in any organism, male or female, but that sexual, whether on male or female, must have had their origin in the woman's organism. An erratic fœtal part in a male must have proceeded from his mother's organism, but the like in a woman, though most probably due to her mother's initiation, may be derived from her own organism. At a very early stage in fœtal life, as Balfour shows, a germ may prey on its fellows, or it may have its developing capacity reduced by accident or injury. Weismann writes that Roux destroyed with a hot needle a single segmentation cell in a series of frogs' eggs. When one of the first segmentation cells was demolished half of the embryo was formed. When one of the first four segmentation cells was destroyed three-quarters of the embryo was formed. Chabrys experimented on the eggs of Ascidians, and found if he destroyed one of the first segmentation cells then the other gave rise not to half an embryo, but to an entire one having only half the normal size. So Driesch found that by separating them the first segmentation cells of *Echinus micro tuberculatus* can give rise to a larva of the normal form, but only a partial formation, not a semiformation. (*The Germ Plasm*, pp. 136, 137.)

The fragments of a disruptured cleavage cell may get into the mother's organism, circulate through her system, and become ultimately attached to any part, or in like manner obtain a settlement in another fœtus in her system. What Frey observes of amœboid cells is equally certain of growing cells. "The wandering of amœboid cells through the interstices of living parts was discovered by Recklinghausen. In the tissues of the system the cells wander on with a continual change of shape, through fine

narrow interstices, and traverse thus in a short space of time comparatively large distances. Owing to these properties the amœboid cells of such animal fluids as lymph, mucous, and serous exudations may wander out from deep and remote organs in any direction. We learn that small formed particles of zymotic and infecting substances can be taken up by amœboid cells, and transplanted by the latter to distant localities in the body, to the imminent danger of the system." (*The Histology of Man*, pp. 77, 78.)

Errant growths of an asexual character prevail more with women than men, but special male cysts, as Quain says, "known as spermatocele, containing spermatozoa, appear to arise from detached portions of testicle substance which by an error of development have failed to become connected with the excretory ducts." (*Diction. of Medic.* p. 324.) Paget writes:—"That seminal cysts may be found in any part of the spermatic cord, and they possess the power of secreting fluid containing spermatozoids." (*Lectures on Surgical Pathology*, p. 417.) That asexual tumours are far more common with women than men all pathologists know. This arises from the fact that the male more readily casts them out of his system than the female. We are informed (*Journal of Anatomy*, IX. p. 400) that at birth the human ovary contains not less than thirty thousand ova in their elemental form, of them we are assured that not one in a thousand are ever matured, and therefore the entire remainder are wasted, remain dormant through the whole life of the individual, or become the sources of abnormal growths in her system, or are transmitted as tissues in her offspring, may be in them to produce the various forms of tumour according to the tissue elements that may become active. Naturally these arise most generally in the ovaries, the uretus, and the parts adjacent or in functional connection. Thus the most common locality for warts, blotches, moles, &c., are in the

neighbourhood of the mouth, they also are general in the neighbourhood of the other body openings. If they course through the blood vessels they may become attached to the muscles or the visceral organs. We read that in number and size these vary greatly, sometimes only one is found at others. At others the uterus is completely studded with them, both within and without, so numerous as to be impossible to count them; they varied in size from a millet seed to a small walnut. These tumours occur most frequently at those periods of life when the uterine functions are in greatest activity. (*Lancet*, 1873, I. p. 658.)

Cellular tumours, or rather the inciting cell, accepts the specialized tissue of the parts in which it evolves. Cysts may be fatty, fibro-cellular, fibrous, cartilaginous, osseous, myeloid, glandular, vascular or papillary. Paget writes that tumours consist of a like substance as that to which they may be inferred to owe their origin, as the bony tumours in myosotis ossificans in mammary glands, thyroid glands, and tumours of the prostate. (*Paget, Lectures*, p. 380.) He also observes a tumour of the uterus may resemble not only in its tissues the substance of the uterus, but may induce the vascularity and muscular development of the pregnant uterus, and acquire like power, and by contractions like those of parturition expel the tumour. (*Lectures*, p. 375.) Thus manifesting like growth powers.

Every cell has in it naturally the power of multiplication; asexually this is by fission or budding, but by its entering into co-ordinate relations with a developing organism this power often becomes latent, or it may exhibit low powers of multiplication only. There are, however, various conditions which excite in such exalted forms of growth, this excitation may be due to a blow, a burn, syphilitic, and other inflammatory conditions, in the bile duct through irritation by gall stones, catheters, and other instruments. All local irritation and inflammation may cause tumours, as C. H. Fagge shows, and these may begin from

thickening of the skin, as from pressure or friction, which may merely produce a corn, but if there is located in the seat of inflammation a bud germ it may be developed through the exalted incubation into a special tumour, and if the conditions stimulate unhealthy growth it may become malignant. Thus cancer of the breast is due to irritation, also cancer of the glans penis, cancer on the lip is often due to irritation by the pipe, the chimney sweepers' scrotum cancer to irritation by soot.

Of the origin of the malignant tumour from the simple W. R. Williams, in his *Principles of Cancer and Tumour formation,* observes:—"Not only can organisms transmit those qualities which they have inherited from their ancestors, but also those they have acquired during their own life time" (p. 178). Under normal conditions each cell is subsidiary to the general co-ordination, and aids with its full tissue power to uphold the common superstructure, but when an isolated cell, especially a germ cell, is exalted it works on the plan of its own personality, or on that of the personality to which it is attached. Thus neoplasmic tumours, as they have been termed, containing fat, bone or cartilage, blood or lymph, may be of self-origin, the over-growth in tissues by local inflammation; but others are due to corresponding cells, probably of fœtal origin, which may develop in any part of the body, in the flesh, in the internal parts, or externally. These in general become only small excrescences, lumps, pimples, blotches, even marks, and during the full period of life they may retain the same characteristics, simply little personal nuisances. But betimes they become exalted through conditions we as yet cannot determine, and become giant tumours, may be weighing twenty or thirty pounds, and predominating over all the mental and organic powers of the human being. One instance of the occasionally vast influence of this cell-power will suffice. Myosotis ossificans, fortunately a rare disease, is the antithesis to necrosis; the

one represents the wasting of the bony structure by want of vital energy in the bone tissues, the other a preternatural exposition of the bone-developing power, as if the periosteum growth power had become insane.

In the Pathological Museum, at Dublin, is a skeleton exhibiting a fearful unhuman amount of this special development, and in the College of Surgeons, London, is another example. In each case it seems as if the bone structure had become coralline in its nature, and grew as tubercular masses from every osseous projection, converting muscle and cartilage into huge nodules of bone. Of the origin and nature of this terrible disease, we read in the *Lancet* (1892, II. p. 1489): "That ossification may take place in muscles which from long continued irritation have been the seat of chronic inflammation. Ossification of the adductors of the thigh in cavalry soldiers, and occasionally in shoemakers, and the drill bone in the deltoid of the old Prussian infantry, are cases in point. Myosotis ossificans is primarily a disease of the cellular tissue binding the muscular bundles together, the muscular tissue itself takes an active part in the process, and undergoes degeneration and atrophy. The disease begins in the muscles of the back and neck. First affecting the muscles of the shoulder and the pectorals, the scapulæ become fixed to the chest, and the arm is rendered useless, the upper limb is affected in advance of the lower. By the gradual ossification of the pectorals, &c., the chest becomes enveloped in a dense bony cuirass. The muscles of the abdomen, the diaphragm, and those essential to life, are hardly ever affected and then only to a slight extent. When the muscles are first attacked there is only a sense of stiffness, this, however, gradually increases, the hardness of the parts become more marked, bony muscles in adjacent muscles fuse, and the rigidity is absolute, the patient, in advanced cases, being rendered almost as rigid and helpless as a block of marble. The joints become fixed not by a true bony ankylosis, but

by the rigid bars of bone formed in the substance of the muscles. The muscles of mastication are frequently affected, the lower jaw becoming completely immobile, so that the patient can only be fed through the dental arch."

Of the extent to which small cellular tumours are evolved from unimpregnated ova it is impossible to form an estimate. They predominate in women when the ovaries begin to act and when they cease to influence her system. They may be then derived from her own organism, or both male and female may receive the primary germ from the mother's organism, and these may remain in a cystic state to an advanced period of life, and then by suitable excitation be evolved into active growth.

Besides this class of cellular tumours, there are the many which are produced by burns and blows, by insects, fungus growth, and by parasites of various kinds; these may be induced by Actinomyces. Sarcomata tumours are probably microbic, and there are structural growths induced by drugs and poisonous infections. Some of these are, as cancer, inheritable, and may thus be carried from generation to generation. As a necessary consequence of the many self-growths in women, cancer is said to prevail in the female as five to two in the male.

The fœtal fragments may be found in both male and female organisms. Quain observes, that dermoid, dentigerous, and proliferative cysts appear to be always congenital structures, but may show further growth and development in after life. At least two-thirds of the cases have occurred in the ovaries, next the testicles are the most frequent seat, but these cysts have been also found in other parts of the body cavity, in the lungs, and even within the skull. (*Dict. of Medic.* p. 325.) W. R. Williams writes: "It occasionally happens in the evolution of almost all parts and organs, that small portions of their germinal tissue become detached and remain isolated in the adjacent tissues. Such sequestrated fragments may remain quiescent,

or they may undergo changes similar to those which characterize the parental tissues." (*Princip. of Cancer*, p. 126.) Sutton writes that tumours containing formed organs are suppressed or parasitic fœtuses. (*Dermoids*, p. 3.)

The whole history of tumours and accessory parts imply that such are distinct personalities having their own growth conditions.

C.—*The sources of Heredity.*

One of the most prominent problems of the day is that of the nature of heredity. It is generally assumed that all the special powers that constitute an individual organism are grouped anew at the parental concert, and that as the result thereof a new special individuality evolves, having the attributes of both parents specially recombined. We affirm that this concept wants fulness and ignores many sources of attributes in the new co-ordinate vitality. We infer that the sum of vital existence cannot be acclaimed of one act, one timal association, or the limited elements thus expressed. In taking a general view of the evolution of the many vital phylogenies we are assured that the power to generate new forms in vital organisms has been progressive, that the higher forms have been evolved from the lower forms, and that consequently other and still higher forms are possible; that ever in every stage of an organic development we note powers in full active working order, powers degenerating, dormant or becoming rudimentary, and new powers in various stages of development, now merely attachments to the species, now confidently expressed, and now become acquired, may be inheritable, faculties. We infer that in the phylogenic development of every species there accrue stable combinations of parts, and which ultimately become the germs of the successional race, and that thereby these self-continuous germs become associate

co-ordinately in the sexual germs. That there are in addition a large class of attributes not exalted by the sexual congress, which attributes are retained in the mother's and may be in the father's generative powers, and that they may be attached to each result of the sexual congress by fusion, by self-grafting, by plasmic assimilation.

The first series, by many successive generative fusions, become the *primary* associate sexual germs, the others are *secondary*, and may only express powers acquired incidentally, or they may intimate that they are more or less hereditary, that they may become latent, and under new influences become active. The sources of the primary powers are the sexual elements, and they express the two lines of descent, that from the father and the mother. The secondary attributes have various origins, they may be derived from the father's plasma at the same time as when the fusion of his spermatozoid takes place in the mother's ovum. The mother is capable of giving origin to many more acquired powers than the father, not only does the generative congress take place in her body, but her plasm is contained in the germinating ovum to a far greater extent than is the possible attachment of the father's to the spermoid, it pervades the albumen and is present in the yolk. Thus both the acquired powers of the father and the mother capable of expression by the plasmas may be attached to the binary sexual germ and modify its capabilities.

Charles Darwin and others have shown that, in addition to derivatives from the father and mother of various classes, that an incipient organism may derive attributes of form, colour, striping, &c.—secondary specific qualities from the mother having been in association previously with another male. How fully this capacity of transmitting other than primary characteristics may dominate under like conditions, extensive observations alone can determine. That such

results are not due to a second spermatozoid which might have remained dormant in the mother's organism, may be inferred from the limited life of the cast-off spermatozoid and from the fact, according to Balfour, that the ovum will not admit of the presence of a second spermatozoid in a vitalizing germ. We adduce the asexual secondary attributes to the long continuance, under favourable conditions, of the plasmic vitality.

There are other than those we have mentioned of adventitious secondary attributes derived from the mother which may become attached to the new germ. Her ovaries, which are her sources of her elements of sexual life, are also her chief sources of her elements of asexual life. Out of the thirty thousand ova contained in her ovaries at her birth, there are but few that in her mature life attain the sexual standard of evolution; they may, like all the higher living forms, prey on each other, or, failing impregnation, they may, under secondary forms of excitation, become endowed with growing attributes that designate active cell-life, and thus become the germs of the many classes of erratic growths that pervade her own system and that of her offspring. We have spoken of the adventitious growths in the woman's own ovary, of their dissemination through her own body substance, of their conveyance to her own offspring, and at its birth of such being found persistent in the ovary of the new-born babe. (*Ziemssen, Cyclo. of Med.* X. p. 359.) Nor under such conditions are only primitive cellular cysts diffused through both mother and child, and in them productive of corresponding growths only. Erratic cysts are diffused from the mother's womb possessing various influences on her own organization and that of her children; they may have the attributes of any tissue of the body, or they may contain as their inciting germs fragments of organic matter of any kind. Dermoid cysts in the ovary may contain epithelium, ciliated with hairs springing from distinct hair follicles, one with a true ball of hair

large as a man's fist, others with bones and teeth and alveolar processes, jaws with teeth in them having the normal structure of teeth, but of rudimentary forms. In one case a milk tooth had become atrophied from the root to the crown, implying the age of second dentition. Grey cerebral substance and transversely striped muscular fibres have been found on the inner wall of the cyst. (*Ziemssen, Cyclop.* X. pp. 432-434.)

Some have endeavoured to account for these formations by assuming a species of abiogenesis or special self-origination of formative parts, but as we are assured that every organic element is the result of previous organic life, we hold that these and all other erratic and duplicate parts are due to primary elements in the inducing parental organism. We as yet know very little of the subject of monstrosities, the attachment of the whole or parts of twin fœtuses in the womb. We know still less of the results of the disintegration of a fœtus in an early stage of fœtation, and of the distribution and growth of the parts, each of which, under new conditions, are capable of new forms and modes of growth. Such parts may develop under strange conditions, as in the instances we have already quoted, and these may more or less affect the life of the host. How some of the most enduring dermoid cysts may arise we can possibly infer from the following instance of the fœtal breaking up, as given in the *Lancet* (May 26th, 1888, p. 1021):—"There may be cases in extra uterine gestation in which rupture takes place, and the fœtus and the effused blood are absorbed. A very early fœtus may be dissolved in the liquor amnii. A case has been reported by Dr. Patch in which a fœtus, so advanced that the fœtal heart was heard, died, and was almost completely absorbed." Under such contingencies the parts most enduring, and therefore most likely to be preserved as erratic in the mother's system, are those parts most commonly found in dermoid cysts, as hair, teeth, bones, nails, and cuticle.

But we may not restrict the possibility of an organism being disintegrated to the fœtal state. In the process of cleavage, as intimated in the physiological experiments detailed, new conditions may be instituted, new forms and new influences accrue. There may arise any deficiency in an organism, or the injured portions of one germ may become attached to another germ, and such states of being manifest other than normal attributes; they may be defective organisms, or they may have duplicate parts—an exalted status—and thus possess more than normal attributes.

In considering all these elements that induce the life capabilities of a new organism, we must not forget the actual reactions that occur when twin organisms arise as the result of the sexual congress. We know that they may be blended and yet hold distinct personalities, each manifesting a distinct will and growth power, or that the fusion may reduce the one personality to a head, as in the case we referred to reported in the *Philosophical Transactions*, in which the mental and organic capacities of the trunkless head were reduced almost to zero. Any combination, any duplication of parts may arise, and more than normal attributes be manifested. A single member may be susceptible to the consciousnesses of the two distinct mind-powers, or the one mental organism, as in the case of Peruntaloo (*Phil. Trans.* LXXIX. p. 157), may command the accessory organism, and express a complete sense of feeling with every part of the accessory but imperfect duplicate. In the Carolina sisters there were personal sensations and powers of motion in the upper portions distinct, but sensation in the lower limbs was common, each consciousness felt a touch in the lower limbs of the other, also the sensations of pain, heat, and cold; these were common, but voluntary, motion in each instance had a distinct source. There was, however, no discriminative sensation when the lower limbs of the other sister were touched, nor does she know whether foot, ankle, knee, or thigh was touched. (*Lancet*, 1872, I.

p. 272.) That even an accessory part is taken into the co-ordination and attached to the common sense of feeling is often noted. There may be extra limbs which appeal to the one sensorium. In the *British Medical Journal* (1891, I. p. 346) is the case of a woman having duplicate limbs, and it is observed that she can localize the action of a pin-point on the accessory limbs.

In all cases these supernumerary parts must exercise an important influence during life upon the organism to which they are attached. Infirm and special modifications may, and do, become inheritable, but we have no record of a parasitic fœtal addition ever being inherited even for a single generation.

As yet we have only spoken of organic specialities that the child may have derived from its mother. It has also long been known that the child may be modified through mental impressions originating in the mother through special sensual impressions, the effects of which may be directly apparent, as in the case of Jacob and the peeled wands, or they may, as in so many affirmed instances, be only developed at certain periods of life or under certain contingencies. It is very true that many of the assumed mental and physical coincidences have a purely imaginary affinity, or are after mental modifications; but when we know that the mother's milk, when her passions or temper are greatly excited, may act as poison on her babe, we may not wholly ignore the result of various mental states in her organism when the child is in co-ordinate reciprocal affinity in the womb with all her nervous and plastic impulses.

Persistent fœtal conditions in a child may readily be due to mental action on the growing parts restraining development and thus produce a cleft palate, a bifid spine, or club foot, and the successional appearance of the last development would tend to induce its continuous manifestation in several generations. A mother's mind ever dwells most on

the physical and mental malformations in her children. That the source of the defective organization is mental is seen in the fact that the anomaly is transferable. Thus in the *Lancet* (1885, II. p. 1189) we read of the loss of full co-ordination being transferred in some children into stunted hands. That the mother's mental state may seriously affect the after life of her offspring innumerable cases affirm. War, pestilence, a famine, fright, mental agony, and other discordant conditions affect the unborn infant through the mother's organism. No abnormal social conditions ever occur without leaving their marks on the after population, in idiocy, imbecility, rickets, paralyzed and stunted organizations. How far such effects may be physical we may note in the case of Mary Schuman, who, though seventeen years of age and apparently of a sound constitution, has never outgrown the physical and mental stature of a suckling. She only utters inarticulate sounds, has all her teeth, but never masticates; has never risen or been dressed, but all her life has lain like a babe in the cradle. (*Lancet*, 1888, I. p. 457.)

If we could give credence to many reported cases we should have no difficulty in thus accounting for the origin of any new variation of a part or faculty, or any anomalous series of conditions. Thus in one instance we are told the child's head exactly resembled a miniature cow's—the occipital bone was entirely absent, the parietal bones only slightly developed; the eyes were at the top of the frontal bone, which was quite flat, each of the superior angles of it were twisted into a rudimentary horn. Ascribed to having been terrified by a bullock in the second month of pregnancy. (*Lancet*, 1890, II. p. 957.) This is far too important a subject to be treated in a general paragraph, we want a cautious enquiry into the whole subject.

We may not always read the succession of mental and physical faculties as a single series, every generation repeating the specialities of the past, the result a continuous

succession of the like elements of an organic co-ordination in the same harmonious relations. Such a changeless succession could not occur owing to the fact that each generation represents the total elements in two series of human co-ordinations. Hence if the individual can only represent a limited number of elements, at every sexual congress something like half the elements in each case are cast off, or we may infer that only a selection is made from the specially distinct elements in the two parental organisms; the abnegated elements passing into a dormant state. Thus arises the phenomena of atavism, as these dormant faculties in subsequently evolved co-ordinations may revive and become active. It is evident under such conditions that if the new organism represents the lapsed faculties through one generation it may be the issue of six distinct stocks, and if the lapsed faculties through two successive generations it may present attributes from fourteen distinct stocks. We shall only be bewildered in endeavouring to summarize the elements that may be successively retained in a dormant state in the organism that represents three or more generations of a lapsed faculty, more especially as the dormant condition may affect any of the numerous faculties in the co-ordination at any period of the series, and their revival have no connective association.

More, we have to fully solve the heredity problem to become acquainted with the nature of the individual's acquired faculties, mental or organic, whether due to himself or to externals. Thus diseases of various kinds may be communicated to the germ unknown to its parents, and which contain successional powers so as to be hereditary. In like manner faculties may be reserved capable of endowing the new germ with other powers than it could have derived from its parental germs. We know that climatal immunity may be attached to organic germs, disease immunity of various kinds, and many undefined tendencies of a racial character. Even the organism steps out of the

charmed heredity circle and institutes epicycloid movements of a new or eccentric nature akin to no previous manifestations.

Lastly, we have to consider the influence that a twin or multiple fœtation may have on each member. This is a contingency that has apparently never been considered, and yet we know that the union of the Siamese twins must have had a marked influence on the individuality of each. The same in a less degree when a surplus member was attached to a single personality. A few illustrative cases will best express the nature of these special co-ordinations. In the *Lancet* (1871, II. p. 74) is the case of a double organism. Mina and Minnie Finley, all below the pelvis was single, all above was double. The leg on the side of Mina was sensitive to her actions, the other to her twin sister, proved by tickling. The pulse in one was faster than in the other; the vascular and nervous systems of each distinct, one slept while the other was active. In the case of the Chinese Ake there was attached a parasite nearly as large as himself. Though the secretions were common the pulsation was diverse, it being very slight on the parasite, yet that was acutely sensible. (*Descrip. Catalog. Warren Anat. Mus.* p. 134.) In a case reported in the *Lancet* (1862, II. p. 685) we note the influence of an additional limb only. The woman had two hands on one side, sensation was equally acute in all the hands, the double hands grasped together.

When the additional parts are only fingers and toes such extra members are ascribed to dichotomy duplication by energy of growth, whether originally due to an acquired fœtal-graft may not be asserted, yet they are acquired powers, not primary, as they are only occasionally inherited, and then the duplication may be transferred from the hands to the feet. In one case (*Lancet*, 1865, II. p. 389) the fingers were webbed to the tips, the little finger having an extra nail. The thumb of the right hand was formed of

three sets of phalanges, the left of two sets, the right thumb had three nails, the left two nails; each formed a prehensile paw. It had become a varying inherited peculiarity, as the child's father and grandfather had the same, the little toe of the right foot being webbed to the next toe. Some of his brothers also had similar hands. In another case of like varying toes and fingers as supernumerary members and unnatural union, we read that the grandfather had double thumbs and six toes on each foot, that three of his children had extra thumbs, fingers, and toes, and in the third generation the same abnormalities were associated with club foot. (*Lancet*, 1861, I. p. 27.) A Mohammedan servant was born with an extra small toe on each foot; his daughter had two little fingers and little toes on each hand and foot; his nephew had a super-thumb on the left hand; his father had a super little toe and finger on the right side; his mother a super-little finger on right hand; and his elder brother a super thumb on the right hand. (*British Med. Journ.* 1892, II. p. 1167.) The acquired quality may be by defect as well as excess, thus in the journal last quoted we read of an individual having only two fingers and no thumb on each hand, also only the big and one very thick toe on each foot. His father's hands were malformed both by defect and excess. (*Ibid.* 1892, I. p. 1188.)

Nor are the powers mental and bodily that the individual may express limited to the various sexual qualities and ante-natal influences that have assimilated in its organism. There are the vast subsequent series of interactions, physical and mental, that under many varying conditions influence the life of every organism. Externals may induce new and change or modify the primary specialities, or introduce other acquired forces into its nature; so all other humans with whom he is brought into contact, all other living forms, any and every diverse physical condition to which he has to respond, and more, every new

mental condition that results from these many influences may cause not only new sentiments, new feelings, and new reciprocal relations, but may result in casting forth old modes and principles, old faculties, and old habits.

Thus the racial individual may not end his being simply possessing the same vitalized elements as he began his independent life, and which his predecessors before him expressed; he may not then be wholly as was the generation that preceded him, nor will he leave to his successors the same faculties and powers as he began his existence with. As he accumulated other properties with which he endowed his offspring, so he leaves them other mental faculties and powers. All worldly wealth represents the accumulations of human hands and thoughts, so the ever advancing standard of human capabilities embodies the results of every action and impulse in the many generations that have been. If life had acquired no new powers the world would now have only known the universal persistence of cell life.

D.—*Acquired characters—Immunity.*

With a view to test the doctrine of acquired attributes we propose to consider the nature of immunity as a modifying power through which the relation of one organism to another is, under special conditions, materially altered.

Before referring to the accepted instances of acquired protection, we note that the desire for such a power in a vital co-ordination itself implies that previously other powers must have been desired and attained by other organisms. The power specially to assail, whatever the mode, must have been acquired before the want of a defence therefrom could have been conceived; more, the two may have been consecutive, and each new attack be met by its corresponding power of defence, as in the ideal instance of the orchid and the

insect or bird suggested by Charles Darwin. All life conditions in this respect ever have been determined by such contests.

The term immunity has been more especially associated with the acquired capacity of, after enduring one attack of a disease, to be thereby protected from subsequent attacks. It is presumed that the organism during the progress of the disease either altered its relations with its detergent foe, or modified its structural capacities so as to be innocuous to after attacks. Thus from his experiments M. Thiele concluded that the constitution of the cow had acquired the power of assimilating, modifying, and mitigating the virus of small-pox, and reducing the power therein to the status of the vaccine variola. In a state of nature we are aware that not only has the rattlesnake acquired protection from its own poison and the poison of its fellows, but that other local species possess the same immunity. More, that those animals subject to the influence of its virus in the blood can assimilate the virus innocuously when presented to the digestive tract.

When we read, moreover, that the assailing power and the protecting power may both be vital forms, we scarce can see how will or vital energy in any organic form can conduce to produce or endow another organic being with life-destroying or preserving powers. Under the old ideas of virus we might conceive of a secretion being modified until it was as deadly to other vitality as a poisonous drug, but how can we conceive the possibility of the will in a cobra converting a simple cell in its soma, only capable of self-division to a very limited extent, into a malignant cell capable of being thrown into the blood of an unprotected animal and there to rapidly multiply in a few hours into millions of millions of cells, each having a nucleus and holding spherules of living germinal matter capable of a like-destructive development. (*Brit. Med. Jour.* July 20th, 1867, p. 43.)

In his *Thanatophidia* Dr. Fayrer has, by numerous experiments, illustrated the devitalizing power of the cobra's poison on various animal organisms. It appears to be specially destructive to warm-blooded animals, paralyzing their nervous systems, and destroying the healthy action of their hearts. If these phenomena were absolute, and the bite of a cobra in all cases was death to mammals, but innocuous as poisonous to all cold-blooded animals, we could only treat it as a class-characteristic, and infer that it was a specially distinguishing attribute. But while the effect of a cobra's bite, and equally being innoculated with its poison, was so deadly to warm-blooded animals, frogs, and other species of snakes, having like poisonous secretions, were but slightly affected, probably not more than fear and the muscular injury implied. The cobra is thus protected from its own poison and the poison of its fellows and other deadly snakes; not so, however, the non-venomous snakes, they are rapidly affected by the venomous snakes. (*Fayrer, Thanatophidia,* p. 83.) This implies that being cold-blooded does not give protection, and that it must be expressed by another element in the organism, and to find out the nature of this element is the great secret.

It is a common subject of observation that the inhabitants of a malarious district are more or less protected from the marsh fevers that so seriously affect the stranger who may reside for a short time under their influence; more, that the native who may have gone to reside for a time in a dry district, on his return to his own residence becomes, equally with the stranger, subject to the influence of the poisonous atmosphere. It is the same in being acclimatised in any country; all classes of atmospheres induce special effects on the action of the heart, the tension of the nerves, the dryness and temperature of the lungs; even the stomach is amenable to these and diverse other external influences, and it is by use or habit that men are protected from sea-sickness.

The essential principle of disease immunity is that a single attack of the special disease, however mild, confers protective powers on the organism, and it is either no longer subject to the same disease, or the symptoms become less malignant. In all cases time is an element in the incubation, as it is in all life-developments, and whether the disease is accompanied by a fungoid growth, rapid cell development and degeneration, the great multiplication of living bacilli, microbes, or higher forms of parasitic life —time, heat, and moisture in varying degrees are necessary for their development.

Each disease has its own modes of action, its own laws, and produces distinct special effects; so men in themselves are affected differently by the same disease. Dr. Moriarty, in the *Lancet* (1884, II. p. 4), writes :—"As you walk through the wards you will see some patients lying as listless as a log of wood, with every sense blunted by the fever; others, again, will be raving from delirium; the degree of delirium and mental aberration will measure the extent of the disease. In most cases towards the end of the first week the mental faculties become blunted and confused. The patient lies senseless, or he may be very restless; or the delirium may not appear till the second week. The patient lies quietly in bed giving expression to incoherent remarks such as would not be used by a man in health, or he is restless and irritable, or gives an incorrect reply to your enquiry. Sometimes the patient is restless, suffers from insomnia, or a delusion, pulse feeble, heart weak, a trembling of the limbs and tongue, skin hot and dry,—attempts suicide." The incubation period in fevers varies from one day to three weeks.

Among the variations in immunity we may note that the diseases, the first attack of which confers immunity, are varola, scarlet fever, measles, yellow fever, whooping cough, true plastic croup, varicella, vaccinia, syphilis, typhoid fever, and the plague. But this immunity is general, not

absolute; the individual is occasionally susceptible. Thus there are on record cases of individuals having had the measles three times, scarlet fever twice, small-pox twice, scarlatina three times. (*Lancet*, 1873, II. p. 175.) Again, the immunity conferred by a first attack may be limited in its recurrence. Thus parents who have had scarlet fever in infancy, may, on the occurrence of the disease in their children, have a form of specific febrile sore throat; the duration of the immunity may be for a lifetime, or only for a limited period. Again, the individual who has suffered from measles or whooping cough is prone to take the other complaint. Again, while the whole of a family may be stricken with scarlet fever, the infant at the breast is excepted, it is immune. When a woman has married twice the children only of one husband may be susceptible, even a sucking infant may contract the disease elsewhere, yet not convey it to its mother, she is immune to it. (*Lancet*, 1871, II. p. 872.) Do not these exceptions illustrate the diverse results of Dr. Fayrer's experiments on the effects of the cobra's poison?

In considering the effects of morbid drug poisons and their reactions one on another, though we may not see the solution of the vital poison problem, we may be assured of some of the components of immunity. Thus many morbid poisons possess the property of exhausting the constitution of all susceptibility to a second action of the same poison, as syphilis, scarlatina, measles, typhus fever, small-pox, whooping cough. What the specific changes in an organism after having passed through an attack of this class of diseases none know, it only frees from one form of disease, not all, and the recovered patient though immune from his late disease is still susceptible to any of the others. They may be produced by inoculation.

The origin of inoculation was the result of Jenner's observation that the rustics in Gloucestershire had recognized the fact that cow-pox kept off the malignant form of small-pox. Such reactions are common; thus by fermen-

tation a solution of sugar obtains some of the characters of alcohol, and in like manner a microbe solution by cultivation becomes so altered that, like the sugar, it has lost its malignant attribute and has obtained a new character.

Another counteracting class of phenomena are the special properties of certain drugs. These have now been largely classified in sets, the one ever neutralizing the action of the other. Thus digitalis increases the action of the heart and aconite reduces its energy. Opium stays secretion, nux vomica induces it. So opium and belladonna act oppositely on the brain, the pupil, the circulation, the lungs, the stomach, and the skin. (*Bartholow. Medicines and Disease.* p. 37.) A like antagonism is affirmed in the action of special drugs on diseases, as mercury on syphilis, strychnia on paralysis, chloral on tetanus, amyl nitrate on angina pectoris, chloroform on sciatica.

That various animals are affected differently by the same poisons, some being immune to those which are deadly to other species, is analogous to the different results ensuing after being poisoned by the bite of a cobra. Thus Dr. Pye Smith says morphia has no effect on pigeons nor belladonna on rabbits, and both arsenic and belladonna can be given to children in far larger doses than the proportion of their bodies would dictate. Some animals, though closely allied to man, are incapable of receiving certain contagia, as syphilis, hydrophobia, anthrax, and relapsing fever. (*Lancet*, 1892, I. p. 850.)

So various are the conditions that affirm the principle of immunity that no explanation can suffice for all. With many investigators the wars of the bacilli and leucocytes are of more importance than were those of the Greeks and Trojans. The *Lancet* observes that Dr. Rogers has made the interesting observation that the serum of guinea pigs, which are now immune against the bacillus chauvœi, possesses very strong bactericidal powers on the organism; whereas the serum of rabbits, which are relatively immure,

has no harmful action on it. There seems good reason for believing that the chemical poisons secreted by micro-organisms attract the leucocytes to the spot where they are introduced. (*Lancet*, 1892, I. p. 96.) Dr. Klein found that he could protect animals from the anthrax bacillus by a proteid body obtained from the testis and from the thymus gland. (*Proceed. Roy. Soc.* XLII. p. 312.)

All later investigations on this subject have tended to show the vast influence that low forms of cell-life have on the higher vital organisms. Professor Frankland demonstrated the great chemical changes due to micro-organisms. Thus one bacterium by a process of oxidation causes the acetic fermentation in beer, another he described as producing the lactic fermentation, which is described as a process of decomposition, while another induces the butyric fermentation, a process of reduction. There are thus a number of low class microbes each possessing distinct powers, and which by their myriads, are able to effect vast chemical changes in beer and wine. More, he describes other great chemical changes due to low forms of organic life, such as the conversion of ammonia into nitrous acid by one microbe and the conversion of nitrous acid into nitric acid by another. This process he described as forever going on in the soil, and myriads on myriads of bacteria are the willing slaves who have built up the colossal fortunes of the nitrate kings. More, as illustrating the universal affinities of vital organisms and their personal individuality, single or in combination, Professor Frankland showed that these low organisms have the same individuality of character and diverse expression of vital powers as we have seen are the common attributes of organic life. He notes that in a pure cultivation of a particular species of micro-organisms we must not expect such rigid uniformity of behaviour as we find in chemical molecules, for each member of such a culture is endowed with a more or less marked individuality of its own, and these possible variations have to be taken into consideration.

Experimenting with micro-organisms partakes rather of the nature of legislating for a community than of directing the inanimate energies of chemical molecules, as their experiences may have become greatly modified by the experiences of their ancestors, that is, by acquired faculties. (*Nature*, XLVI. pp. 136, &c.)

Phenomena, such as the Professor describes, indicate that there may be around us and in all other forms of life, micro-organisms of the potentiality of which we are still ignorant, and as generation after generation may be evolved in the period of twenty minutes, so that one may become a grandmother in an hour, it is possible through selection in a limited term to effect vast metamorphoses of form and powers. How much this faculty in low forms of life may conduce to produce the various powers of immunity we have been considering is a matter for future research.

END OF VOLUME II.

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